



- 1909. -

ANNUAL REPORT

ON THE

HEALTH

OF THE

CITY OF HEREFORD,

BY

J. W. MILLER, M.D., D.P.H.,

MEDICAL OFFICER OF HEALTH ; MEDICAL SUPERINTENDENT
OF THE CITY ISOLATION HOSPITALS ; AND MEDICAL OFFICER
TO THE EDUCATION AUTHORITY.

HEREFORD :

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CITY OF HEREFORD.

Sanitary Committee :

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Councillor W. C. GETHEN.

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EXTRACT FROM THE ORDER OF THE LOCAL GOVERNMENT BOARD,
23rd MARCH, 1891.

“(14). He shall also make an annual report to the Sanitary Authority, up to the end of December in each year, comprising a summary of the action taken, or which he has advised the Sanitary Authority to take, during the year for preventing the spread of disease, and an account of the sanitary state of his District generally at the end of the year. The report shall also contain an account of the inquiries which he has made as to conditions injurious to health existing in the District, and of the proceedings in which he has taken part or advised under any Statute, so far as such proceedings relate to those conditions; and also an account of the supervision exercised by him, or on his advice, for sanitary purposes over places and houses that the Sanitary Authority have power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year. The report shall also record the action taken by him, or on his advice, during the year, in regard to offensive trades, to dairies, cow-sheds, and milk shops, and to factories and workshops. The report shall also contain tabular statements (on Forms to be supplied by Us, or to the like effect), of the sickness and mortality within the District, classified according to diseases, ages and localities.”

EXTRACT FROM LOCAL GOVERNMENT BOARD'S MEMORANDUM AS
TO ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH, OCT.,
1909.

As subjects concerning which the Board desire to obtain, through Annual Reports of the Medical Officer of Health, not only definite general information, but record also of particular changes of condition that may have occurred incidentally or by action of the local authority, the following deserve to be specially borne in mind :—

Physical features and general character of the district and general conditions of its population.

The chief occupations of the inhabitants, and the influence of any particular occupation on public health.

House accommodation, especially for the working classes : its adequacy and fitness for habitation. Sufficiency of open space about houses, and cleanliness of surroundings. Supervision over erection of new houses. Action under Parts I., II. and III. respectively of the Housing of the Working Classes Act, taken or needed.

Water supply of the district or of its several parts : its source (from public service or otherwise), nature (river water, well water, upland water, etc.), sufficiency, wholesomeness, and freedom (by special treatment or otherwise) from risks of pollution. In the case of waters liable to have plumbosolvent action, any facts either clinical or chemical, whether negative or positive, as to contamination of the water by lead should be stated, and whether administrative action has been taken during the year in respect of such contamination.

Milk supply : character and wholesomeness of milk produced within the district or imported : condition of dairies, cow-sheds, and milkshops ; administration in regard to milk. Tuberculous milk.

Other foods : unsound food and food inspection : sanitary condition of premises where foods are prepared, stored, or exposed for sale. Meat inspection, disease in meat, and condition of slaughterhouses. Action under Sale of Food and Drugs Acts, taken or needed. Action under section 117 of the Public Health Act, 1875. Number of carcases and parts of carcases condemned for tuberculosis.

Sewerage and drainage : its sufficiency in all parts of the district. Condition of sewers and house drains. Method or methods of disposal of sewage. Localities where improvements are needed.

Pollution of rivers and streams in the district : the sources and nature of such pollution, and any action taken to check it.

Excrement disposal : system in vogue ; defects, if any.

Removal and disposal of house refuse—whether by public scavenger or occupiers : frequency and method.

Nuisances : proceedings for their abatement--any remaining unabated.

Byclaws as to houses let in lodgings, offensive trades, etc. Details as to number of premises coming under each set of byclaws, and action taken. Any need of amendment or further bye-laws.

Schools, especially public elementary schools ; sanitary condition of, including water supply ; action taken in relation to the health of the scholars and for preventing the spread of infectious disease.

Methods of dealing with infectious diseases : notification ; isolation hospital accommodation, its sufficiency and efficiency ; disinfection.

Methods of control of tuberculosis : whether any system of notification of cases of pulmonary tuberculosis, compulsory or voluntary, is in operation. Number of cases notified ; what action is taken in respect of known cases and of deaths. Amount of hospital accommodation for cases of pulmonary tuberculosis in infirmaries and elsewhere, for advanced and for earlier cases of the disease.

“ With regard to such points it should be remembered that these reports are for the information of the Board and of the County Council as well as of the Council of the District, and that a statement of the local circumstances and a history of local sanitary questions which may seem superfluous for the latter, may often be needed by the former bodies.

“ It is expected that each of the preceding points will be mentioned in the Annual Report and the extent of action or absence of action on each of them definitely stated.”

Health Office,

Town Hall, Hereford,

March, 1910.

To the Mayor, Aldermen and Councillors of the City of Hereford.

MR. MAYOR AND GENTLEMEN,

I have the honour to submit my Second Annual Report on the Health and Sanitary Condition of the City of Hereford.

On pages 57-68 will be found in detail an account of the administrative measures against tuberculosis, including a Memorandum which has been issued by the Chief Medical Officer of the Local Government Board. I would commend to your serious consideration the question of the provision of Sanatorium treatment for early cases of Consumption. Suggestions in regard to the treatment of advanced cases of this disease are made on pages 62, 67 & 68.

Reference is made to the elimination of tuberculosis in cows on pages 73-77.

A short description of the Garden City is given on pages 80-83, and a summary of the Housing, Town Planning, etc., Act 1909, on pages 85-90.

The various measures which are being used in regard to the prevention and spread of Infectious Disease among children are referred to on pages 174-186.

In conclusion, I beg to thank you for the encouragement and support you have always given me.

I am, Mr. Mayor and Gentlemen,

Your Obedient Servant,

J. W. MILLER.

CITY OF HEREFORD.

Statistical Summary for 1909.

Situation : North Latitude	52° 3' 20''
West Longitude	2° 43' 10''
Area of Municipal Borough	5,031 acres
Rateable Value	£131,357 *
Population at Census, 1901	21,382
Number of Inhabited Houses at Census, 1901 ..	4,565
Average Number of Persons per House at Census, 1901	4·68
Estimated Population to the middle of 1909 ..	22,504
Average Number of Persons per acre	4·47
Birth-rate, 1909	21·59
Average Birth-rate for the previous ten years ..	23·5
Death-rate, 1909	14·39
Average Death-rate for the previous ten years ..	15·6
Corrected Death-rate, 1909	13·58
Zymotic Death-rate	·53
Average Zymotic Death-rate for previous ten years	·88
Infant Mortality per 1,000 births	107
Average Infant Mortality for the previous ten years	119
Phthisis Death-rate	1·24
Average for previous ten years	1·13

ANNUAL REPORT
OF THE
Medical Officer of Health
TO THE
TOWN COUNCIL, CITY OF HEREFORD,
For the Year 1909.

PHYSICAL FEATURES, &c.

An account was given of the Physical Features of the town as well as the Geology, Occupations of the Inhabitants, etc., in the Annual Report for 1908, pages 11-13.

POPULATION.

The population of the City as estimated by the Registrar General to the middle of 1909 is 22,504, and it is on this estimate that I have calculated the various rates for the year 1909. This estimate is based on the assumption that the increase since 1901 has gone on at the same rate as between 1891 and 1901.

If the census were taken every five years the population in inter-censal years could be estimated more accurately, and this particularly applies to the population of the various Wards. This year I have made an allowance for the additional number of persons in Leonminster Ward through the erection of the Garden City, a correction has also been made in regard to persons who previously resided in the Bewell Street area.

On account of the larger number of old people and larger proportion of females in the City as compared with England and Wales, a correction must be made in estimating the death-rate, for comparison with other towns.

The following table shows the population for years 1754, 1785, 1801 and periods of 10 years after this latter date, with the percentage increase over the previous period. The most marked increase in the population was during the period 1851 to 1861,

29.2 per cent. : for 1811 to 1821 the increase was 24.4 per cent., and for 1891 to 1901 it was 5.5 per cent., more than double the rate of increase during the years 1881 to 1891.

Year.	Population.	Increase.	Percentage increase.
1754	5,232		
1785	5,368	406	7.7
1801	6,828	1,190	21.1
1811	7,306	478	7.
1821	9,090	1,784	24.4
1831	10,282	1,192	13.1
1841	10,921	639	6.2
1851	12,108	1,187	10.8
1861	15,646	3,538	29.2
1871	18,347	2,701	17.2
1881	19,822	1,475	8.0
1891	20,267	445	2.2
1901	21,382	1,115	5.5

BIRTHS.

During the year 486 births were registered, 250 males and 236 females. This gives a rate of 21.59 per thousand of the population, compared with 21.55 during the preceding year, an increase of .04 per thousand, and comparing the rate with the average for the preceding 10 years, a diminution of 1.91 per thousand.

The birth-rates for England and Wales for the year 1909 were as follows:—

	Per 1000 of population.
England and Wales	25.6
76 Great Towns	25.7
143 Smaller Towns	24.8
England and Wales less the 216 towns	25.6

The number of married persons in Hereford at the last census was given along with the statistics for the whole county and not separately. There can be no doubt that the most accurate rate is that calculated on the number of married women between the ages of 15 and 45 years.

Comparing the rates in the different Wards, the rate was highest in Leominster Ward (24.78), lowest in Monmouth Ward (16.26), and the rate for Ledbury Ward was 21.78.

The following Table shows the birth-rates for the City for quinquennial periods since the year 1876, compared with the rates for England and Wales during the same periods.

Period	Birth-rates per 1,000 of the population.	
	Hereford.	England and Wales.
1876-80	25.3	35.3
1881-85	25.4	33.5
1885-90	24.7	31.4
1891-95	25.0	30.4
1896-1900	25.3	29.2
1901-1905	23.9	28.1
1906	21.5	27.07
1907	23.9	26.2
1908	21.5	26.5

It will be seen from this table that there has been a steady decline in the birth-rate for England and Wales since the year 1876. In the case of Hereford from 1876 to 1900 there was very little variation in the average, but since 1900 there has been a rather marked decrease. The lower rates for the City since 1876 as compared with England and Wales are probably partly accounted for by the fact that the proportion of married women in Hereford from 15 to 45 years is less than that for England and Wales.

There were 27 illegitimate births registered during the year. In four instances the mothers belonged to outside districts, and three of these births as well as one other took place in the Workhouse; these have been referred to their respective Wards. Excluding the four births referred to above, the percentage of illegitimate to legitimate births was 5.01.

There were 10 illegitimate births in Ledbury Ward, 13 in Leominster and 4 in Monmouth Ward.

The percentage of illegitimate to the total births has shown a decrease during the last 29 years, but is still higher than that for England and Wales; for the period 1881-91 the percentage was 6.8, 1891-1901, 5.6, and for the years 1901 to 1908 inclusive 5.5 per cent. The percentage for England and Wales* for the period 1901-05 was 3.95 and for 1908, 3.99.

Out of the 27 illegitimate births, 5 deaths occurred under one year equal to a percentage of 18.5 of illegitimate births or 185 per 1,000, as compared with 102 per 1,000 for legitimate children. Some particulars of these deaths are given under Infantile Mortality and Diarrhoea.

There were also 2 illegitimate deaths at ages 1 year and 1 year 2 months respectively.

STILLBIRTHS.

The number of still-born children interred in the cemetery during 1909 was 19, compared with 18 in 1908.

DEATHS.

The total number of deaths registered during the year was 350 ; of these 37 were non-residents and have been excluded and 10 deaths of residents in the Burghill Lunatic Asylum and one in Wrexham Infirmary have been included.

Of the 37 non-residents, 31 were from districts in Herefordshire, 1 was from Radnorshire, 3 from Breconshire, 1 from Glamorganshire, and 1 from Monmouthshire ; 9 of these deaths occurred in the Workhouse and 28 in the Herefordshire General Hospital.

Of residents, 21 deaths occurred in the Workhouse and have been assigned to their respective Wards as follows :—Ledbury, 11 ; Leominster, 7, and Monmouth 3 ; 20 occurred in the General Hospital and have been assigned as follows :—Ledbury Ward, 9 ; Leominster, 7, and Monmouth, 4.

The nett deaths after deducting 37 non-residents from the total number of registered deaths and adding on the 10 residents who died in the Asylum and one who died in Wrexham Infirmary, amounted to 324, 154 males and 170 females ; equal to a recorded death-rate of 14.39 and a corrected death-rate of 13.58 per 1,000 of the population. The distribution of these deaths and the rates for each Ward are given along with other statistics in connection with the Wards in the table (page 21).

The highest death-rate was for Ledbury Ward, 15.26, and the lowest for Monmouth Ward, 12.93 ; the rate for Leominster Ward was 14.45.

There is a larger proportion of females to males in Hereford than in England and Wales as a whole ; taking the number of males as 100 in the year of the census (1901), the ratio of females to males in Hereford City was 117 and in England and Wales 107. There are also a smaller number of children under 5 years of age and a larger proportion of old people than in England and Wales as a whole.

The following are the rates per 1,000 for each sex in the City at the following age periods for the year 1909, and similar rates are shown for England and Wales for the years 1901-05 :—

	DEATH-RATES, 1909. HEREFORD.		DEATH-RATES, 1901-05. ENGLAND AND WALES.	
	Males.	Females.	Males.	Females.
All ages.	14.7	14.05	17.1	15.0
0-5	32.6	28.5	53.8	44.9
5-10	1.23	1.28	3.6	3.7
10-15			2.1	2.2
15-20			3.2	3.0
20-25			4.3	3.6
25-35	2.13	2.51	5.9	5.0
35-45	2.74	2.54	9.9	8.2
45-55	9.45	6.81	17.3	13.3
55-65	16.19	15.3	32.9	25.7
65-75	38.46	17.9	67.2	56.4
75-85	59.49	58.5	137.4	121.5
85 & upwds.	135.8	147.8	283.0	261.3
	312.5	368.4		

In comparison with similar rates for England and Wales over a period of 5 years, it will be seen that in Hereford the rates for both sexes are lower, more especially at age periods 0-5 and 5-15 years, than similar rates for England and Wales up to 65 years, with the exception of periods 55-65 in the case of males, and 45-55 in the case of females.

There has been a satisfactory decline in the number of deaths under 5 years of age, especially in the number of deaths during the first year since 1875.

Period.	Percentage of deaths under 5 yrs.
1875-1880	31.1
1881-1890	29.2
1891-1900	27.8
1901-1908	26.0

Taking into consideration the age and sex distribution of the population of the City as compared with England and Wales, it is necessary in making comparisons with the death-rate for England and Wales and other towns that a correction should be made. The "Factor for Correction" for the City is .9442. The corrected death-rate is obtained by multiplying the recorded death-rate by this factor; the death-rate for the City as so ascertained for the year 1909 was 13.58 per 1,000.

The method by which this factor is obtained is given on page 19 of the Annual Report for 1908.

With the exception of the year 1907, when the rate was 14.34, the death-rate of the City for 1909 was the lowest on record, as is shown in the accompanying table ; this is very satisfactory. The decline in the death-rates of the City and England and Wales during quinquennial periods is also shown.

Year.	Hereford.		England and Wales.	
	Death-rates.	5 yearly period rates.	Death-rates.	5 yearly periods.
1875	21.8			
1876	28.8			
1877	18.0			
1878	17.6			
1879	23.8			
1880	18.3	21.3	20.7	1876-80
1881	16.4			
1882	18.2			
1883	19.4			
1884	19.3			
1885	18.1	18.2	19.4	1881-85
1886	21.1			
1887	18.6			
1888	18.4			
1889	18.0			
1890	17.0	18.6	18.8	1886-90
*1891	16.0			
1892	17.7			
1893	18.8			
1894	18.0			
1895	17.9	17.6	18.7	1891-95
1896	17.4			
1897	16.7			
1898	16.2			
1899	18.0			
1900	18.5	16.9	17.6	1896-1900
1901	16.1			
1902	15.9			
1903	16.2			
1904	15.1			
1905	15.6	15.7	16.0	1901-05
1906	16.9		15.38	1906
1907	14.34		15.0	1907
1908	14.6		14.7	1908

*Up to the year 1891 deaths of non-residents which occurred in Institutions in the City were included ; since this year a reduction for non-residents has been made.

The following are the death-rates for England and Wales for the year 1909 :—

	Death-rate.	
	Crude.	Corrected.
England and Wales	14.5	14.5
76 Great Towns	14.7	15.6
143 Smaller Towns	13.9	14.5
England and Wales less the 219 towns	14.5	13.6

The death-rate for the City compares favourably with the death-rates of other towns of the same size.

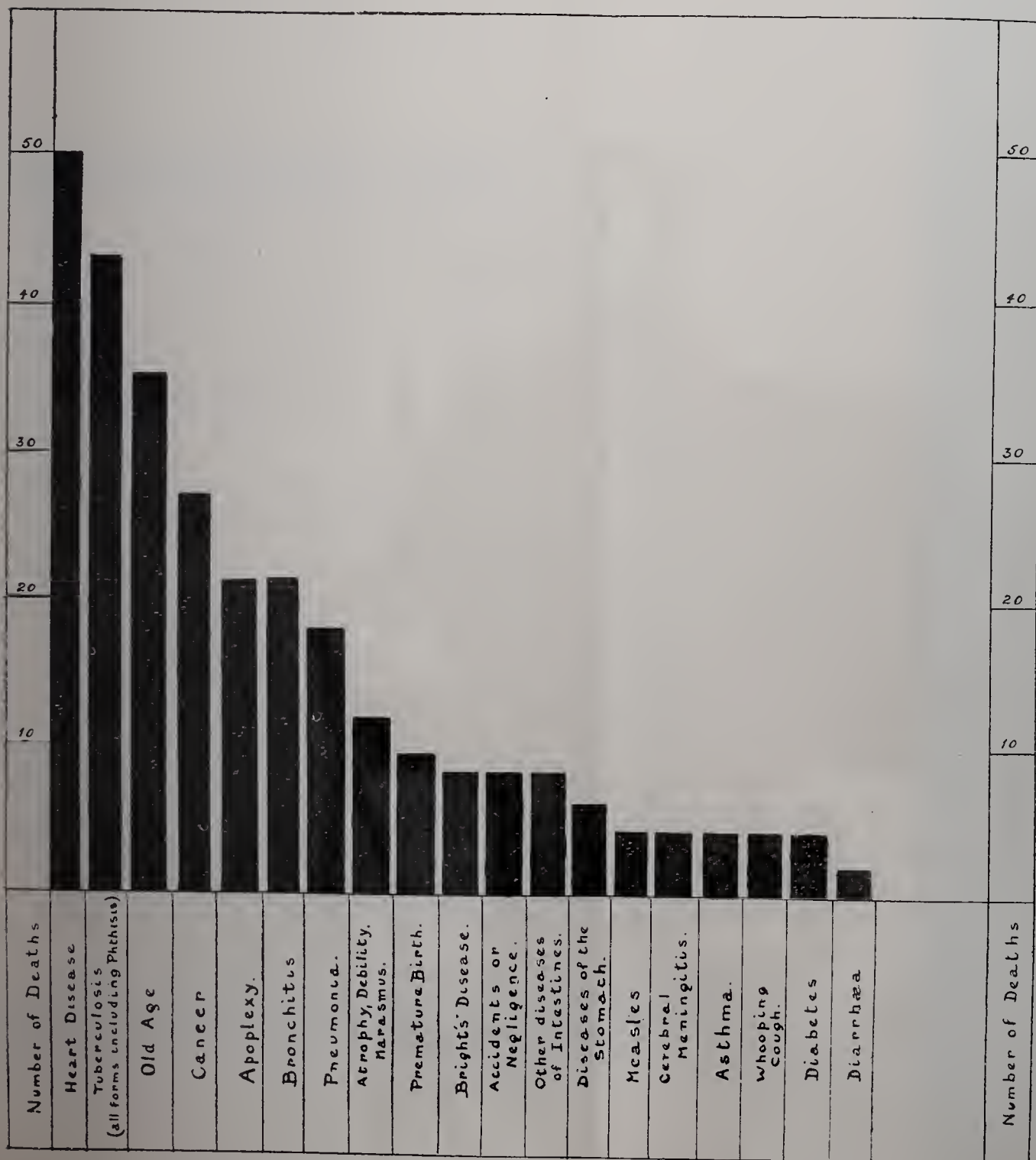
The largest number of deaths in the city occurred during the first quarter of the year, 98; the deaths during the remaining quarters were 70, 66 and 79 respectively.

The percentage of deaths at different age periods was as follows :—

52 deaths occurred under 1 year	16.05 per cent.
19 deaths ,, from 1 to 5 years	5.87 ,,
16 deaths ,, ,, 5 to 25 years	4.94 ,,
104 deaths ,, ,, 25 to 65 years	32.09 ,,
133 deaths ,, ,, 65 years upwards ..	41.05 ,,

Thus 21.92 per cent. of the deaths occurred under 5 years of age, 37.03 from 5 to 65 years, and 41.05 per cent. from 65 years upwards. The percentages of deaths under one year and from 65 years upwards were greater than in 1908; but those of deaths for the periods from 1 to 5 years and from 25 to 65 years were less.

CHART showing the principal causes of death (88%)
in the City during the year 1909.



The following table and the accompanying chart show the chief causes of death (88 %) during the year, 1909:—

Cause of Death.	Number.	Percentage.
Heart Disease	50	15.43
Old Age	35	10.80
Phthisis	28	8.64
Cancer	27	8.33
Apoplexy and Hæmorrhage	21	6.48
Bronchitis	21	6.48
Pneumonia	18	5.55
Other forms of Tuberculosis	15	4.62
Atrophy, Debility, Marasmus and allied Causes	12	3.70
Premature Birth	9	2.77
Bright's Disease	8	2.46
Accidents or Negligence	8	2.46
*Other disease of Intestines	8	2.46
Disease of the Stomach	6	1.85
Measles	4	1.23
Cerebral Meningitis	4	1.23
Asthma	4	1.23
Whooping Cough	4	1.23
Diabetes	4	1.23
†Diarrhœa	2	0.61
Total	288	88.79

* Other than Zymotic Diarrhœa.

† Zymotic Diarrhœa.

In the table on page 18 are shown the principal causes of death for the years 1899 to 1908, and the average death rates for this period are compared with similar rates for the year 1909.

TABLE OF DEATHS
From the principal forms of Disease during the last Ten Years.

Name of Disease.	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	Total for 10 yrs.	Average Rate 1899-08	1909	Rate 1909
Small-pox	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Measles	0	11	0	1	16	1	1	3	17	5	55	.25	4	.17
Scarlet Fever	1	1	0	0	1	4	1	0	2	1	11	.05	1	.04
Whooping Cough	0	14	6	2	2	10	1	10	2	3	50	.22	4	.17
Diphtheria and Mem- branous Croup	1	1	2	2	2	7	11	8	2	2	38	.17	1	.04
Typhoid Fever	0	0	0	0	1	0	0	1	1	0	3	.01	0	0
Influenza	9	12	6	6	5	4	9	4	2	3	60	.27	2	.08
Diarrhoea	5	4	3	2	1	3	1	9	1	6	35	.16	2	.08
Puerperal Fever	0	0	0	1	2	1	1	2	1	0	8	.03	0	0
Erysipelas	0	0	1	0	1	3	1	1	0	0	7	.03	0	0
Phthisis	24	25	28	22	21	29	20	26	22	31	248	1.13	28	1.24
Other Tubercular Diseases	14	14	15	6	18	12	13	12	7	11	122	.55	15	.66
Cancer	25	22	22	26	25	13	21	23	19	21	217	.99	29	1.28
Bronchitis, Pneumonia, Pleurisy and Diseases of the Respiratory Organs	43	63	49	58	39	63	56	36	51	36	494	2.26	43	1.91
Heart Disease	42	43	48	52	41	34	40	50	54	47	451	2.06	44	1.95
Violence	8	12	8	7	7	7	3	1	3	8	64	.29	8	.35
Other	185	152	157	159	171	140	131	156	137	153	1541	7.06	143	6.35

The following Table shows the gains and losses in the death-rates per 1,000 persons living in the year 1909 compared with the average rate for the ten years 1899-1908.

GAINS.

Name of Disease.	Average rate 1899-1908	Rate during 1909.	Gains per 1,000.	Probable number of lives gained.
All causes	15.52	14.39	1.13	25
Measles .....	.25	.17	.08	2
Scarlet Fever .....	.05	.04	.01	(less than 1)
Whooping Cough ....	.23	.17	.06	1
Diphtheria .....	.17	.04	.13	3
Typhoid Fever .....	.01	.00	.01	(less than 1)
Influenza .....	.27	.08	.09	2
Diarrhœa .....	.16	.08	.08	2
Puerperal Fever ....	.03	.00	.03	(nearly 1)
Erysipelas .....	.03	.00	.03	(nearly 1)
Heart Disease	2.07	1.95	.12	3
Respiratory Diseases (other than Phthisis)	2.26	1.91	.35	8
Other diseases	7.06	6.35	.71	16
Gross Gains .....	..	..	1.70	38

LOSSES.

Name of Disease.	Average rate during 10 years 1899-1908	Rate during 1909.	Losses per 1,000.	Probable number of lives lost.
Phthisis	1.13	1.24	.11	2½
Other Tubercular Diseases .....	.55	.66	.11	2½
Cancer .....	.99	1.28	.29	6½
Violence .....	.29	.35	.06	1½
Gross Losses .....	..	..	.57	13

Nett Gain.—1.13, or 25 lives.

The death of a person in a population of 22,504 corresponds to a rate of .044 per 1,000. Hence the saving or loss of a rate of .044 means the saving or loss of one human life, therefore 1.13 means the saving or loss of 25 lives.

The value in the case of each male life has been estimated by taking as the standard a labourer, and capitalising the wages earned by him, the means of subsistence being deducted. The value thus ascertained is found to be over £120. Assuming that one-half of the 25 lives saved in Hereford during 1909 on the average of the previous 10 years, were males, the nett gain to the community would be over £1,500. As the remaining female lives are equal to a certain money value the nett gain in wealth would be higher than this amount.

UNCERTIFIED DEATHS.

There were 2 uncertified deaths during the year (.6 per cent.), and the following causes of deaths were assigned :—Male, 86 years, Heart Failure ; and a Female 76 years, Paralysis.

INQUESTS.

During the year 18 inquests were held on the deaths of residents and the verdicts found by the coroner's juries were as follows :—

Natural causes :—

Bronchitis	1
Cerebral Hemorrhage	2
Disease of Blood Vessels	1
Heart Disease	5
Phthisis	1

Accidents or Negligence :—

Burns	1
Drowning	1
Injuries	3

Suicides :—

Cut-throat	1
Poisoning	1
Rifle Shot	1

STATISTICS OF THE WARDS.

	Ledbury Ward.		Leominster Ward.		Monmouth Ward.		City.	
Population	8582		8512		5412		22504	
Acreage	1195		2089		1747		5031	
Persons per acre	7.18		4.07		3.09		4.47	
Births	M. 93	F. 94	M. 114	F. 97	M. 43	F. 45	M. 250	F. 236
	187		211		88		486	
Birth-rate	21.78		24.78		16.26		21.59	
Deaths	131		123		70		324	
Death-rate	15.26		14.45		12.93		14.39	
Infantile Mortality	17		24		11		52	
Rate....	90.9		113.17		125		107	
Zymotic Disease	7		4		1		12	
Rate....	.81		.46		.18		.53	
Phthisis	14		8		6		28	
Rate....	1.63		.93		1.10		1.24	
Other Tubercular								
Disease....	3		8		4		15	
Rate.....	.34		.93		.73		.66	
†Other Respiratory								
Disease....	14		21		8		43	
Rate	1.63		2.46		1.47		1.91	

(a) Rates calculated per 1,000 of the population.

† (b) Includes Bronchitis, Pneumonia and Respiratory Diseases other than Phthisis.

INFANTILE MORTALITY.

During the year 52 deaths occurred of infants under one year, and the infantile mortality rate (proportion of deaths under one year of age to 1,000 births) was 107, as compared with 95 in 1908 and with an average rate of 119 for the 10 years 1899-1908. The infantile death-rates for England and Wales during 1909 were as follows:—England and Wales, 109 per 1,000 births; 76 great towns, 118 per 1,000; 143 smaller towns, 111 per 1,000; England and Wales, less the 219 towns, 98 per 1,000.

Of the 52 deaths, 28 were males and 24 females; 17 deaths occurred in Ledbury Ward, 24 in Leominster and 11 in Monmouth Ward, the rates being 90, 113 and 125 respectively.

Seventeen deaths occurred in the first quarter of the year, 10 in the second quarter, 13 in the third quarter and 12 in the last quarter; thus the largest number occurred in the first quarter.

Table V. (L.G.B.), Appendix, shows the various causes of death and the age at death. The causes may be arranged into the following groups :—

Cause of Death.	No. in 1909.	Rates per 1000 births.		Percentage of deaths. 1909
		1909.	1899-1908	
Premature Birth ..	9	18.5	16.7	17.3
Congenital Defects	3	6.2	4.09	5.8
Atrophy, Debility, Marasmus	12	24.7	20.3	23.1
Enteritis	1	8.2	9.35	7.7
Diarrhoea	3			
Convulsions	4	8.2	17.9	7.7
Tuberculosis	7	14.4	9.3	13.4
Respiratory Disease	6	12.3	21.06	11.5
Infectious Disease	4	8.2	8.1	7.6
Other Disease	3	6.2	13.2	5.8
Total	52	106.9	120.0	

If Tuberculosis be included and it is assumed that at least 50 per cent. of the deaths in connection with Atrophy, etc., and Convulsions occurred from improper feeding, probably 36 per cent. of the deaths under one year were due largely to improper feeding and impure milk.

Comparing the rates this year with those of the preceding 10 years it will be seen that the rates in connection with Premature Births and Congenital Defects are somewhat higher. The rates of deaths in which the causes were connected with improper feeding are about the same, the death-rate from Respiratory Disease is lower, but that from Tuberculosis is distinctly higher.

The various causes of death of infants under one year for the previous 10 years, 1899-1908, is given in the accompanying table for purposes of comparison.

for purposes of comparison.												Years	Rates per
Causes of death.	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1899 to 1908	1000 births 1899-1908.	
Premature Birth	13	6	13	11	8	9	7	5	5	9	86	16.7	
Congenital Defects	3	2	3	1	3	2	1	3	—	3	21	4.09	
Debility, Atrophy, Marasmus and associated causes ..	15	8	6	9	23	19	7	7	7	12	104	20.3	
Respiratory Disease	7	13	10	12	14	16	10	12	8	6	108	21.06	
Tuberculosis	5	4	8	1	7	4	4	4	1	7	48	9.3	
Diarrhoea	6	5	1	3	2	1	—	8	1	3	30	5.85	
Enteritis	1	4	2	2	1	3	—	1	3	1	18	3.5	
Convulsions	16	11	9	9	1	6	10	14	9	4	92	17.9	
Measles	—	1	—	—	5	—	—	—	7	2	14	2.7	
Whooping Cough	—	6	3	1	1	5	—	7	2	3	28	5.4	
Other Infectious Disease ..	—	—	—	—	—	—	—	2	—	—	8	1.5	
Overlaid	—	1	1	—	2	2	—	2	—	—	—	—	
Other Diseases	10	6	8	9	8	3	2	6	5	3	60	11.7	
Total	76	67	64	58	78	61	41	69	51	52	617	120	

Out of the 52 deaths under one year which occurred in 1909, a little over a third occurred during the first month, and of these three-quarters within the first week. Over half of the deaths occurred during the first three months and over three-quarters of the total deaths during the first six months.

Enquiries were made in regard to 13 cases, where it was considered that errors in feeding have been connected with the death of the infant. Particulars of two of these deaths are given under Diarrhœa on page 37.

The following information was obtained in respect to feeding:—

BREAST MILK.—In four cases the infants were breast-fed up to within a few days of death.

(1) A male, 4 months, died from convulsions. Was breast-fed up to a week before death, when condensed milk was substituted as the breast-milk was not readily taken. Total children, 3; living, 2; dead, 1.

(2) Male, 3 months, cause of death, convulsions. Breast-fed, except for a few days preceding death, when cows' milk was given out of a boat-shaped bottle. The baby had slept with a female, aged 21 years up to one month preceding death who was affected with consumption. Total children, 4; living, 2; dead, 2.

(3) Male, 4 months, cause of death, convulsions. On the breast the whole time, with the exception of the last few days, when cows' milk was substituted on account of vomiting.

(4) Female, 12 days, cause of death, marasmus and convulsions. Breast-fed up to within a few days of death. Surroundings bad, house old and the interior dirty. Total children 3; living, 2; dead, 1. The sanitary conditions in the first three cases were satisfactory.

BREAST MILK AND COWS' MILK.—In five cases the babies were breast-fed for part of the time and cow's milk was afterwards substituted.

(1) Female, 4 months, cause of death, marasmus and bronchitis. Fed on the breast for two months, then on cows' milk, as the breast milk was insufficient, and during the last few weeks preceding death, on Mellin's and Neaves' Foods. The mother had insufficient food during the period preceding the birth of the child, and for some months afterwards, owing to the husband being out of work. The house was insanitary, and the interior dirty. Total children, 5, all dead.

In this case the conditions were unfavourable for the development of the infant.

(2) Male, 6 months (illegitimate), cause of death, premature birth and marasmus. Breast-fed for 3 months, then milk given out of a boat-shaped feeding bottle, as the mother's milk was stated to be poor; bread and milk was also given occasionally. This was a case in which the breast-milk ought to have been persevered with. It would be impossible for a baby at this age to digest bread, which is a starchy food.

(3) Male, 19 days, cause of death, convulsions. Breast-fed for the first ten days, and afterwards peptonized milk was given on medical advice, as nothing could be retained. In this case there was some developmental defect. Total children, 10; living, 8; dead, 2. The surroundings were not good, and the house was overcrowded, 10 persons being accommodated in one living room and 2 bedrooms. The living-room window did not open.

(4) Female, 4 months, cause of death, malnutrition. On the breast for two months and then fed on diluted cows' milk out of a boat-shaped bottle, as the breast-milk was said to be insufficient. Was prematurely born. Total children, 6; living, 3; dead, 3.

COWS' MILK.—(1) Male, 7 days, cause of death, congenital debility. Was unable to take either breast-milk or cows' milk. Total children, 2; living, 1; dead, 1.

(2) Female, 6 weeks, death from malnutrition and enteritis. The mother died in child-birth and the infant was brought up by an aunt on barley water and milk. Total children, 6; living, 4; dead, 2.

(3) Female, 27 days (illegitimate), died from marasmus. Weakly from birth, breast-milk insufficient, fed on milk and barley water out of a boat-shaped bottle. The house contained two living rooms and three bedrooms, and there were 10 occupants including the baby.

SANITARY CONDITION OF HOUSES.—This was on the whole good, except where otherwise stated. There were two cases of overcrowding referred to above. In regard to sanitary conveniences all the houses were on the water carriage system. Refuse was deposited in old boxes, tins, etc., and these were emptied weekly.

FOOD STORAGE.—In 9 cases the food was kept in the scullery or back kitchen, and in 2 cases in a cupboard in the living room. As there was no proper food cupboard available, flies would have access to the milk and other food. Five deaths occurred in the

third quarter of the year, and of the remainder three occurred in the first quarter, one in the second and two in the last quarter of the year.

REMARKS.—The deaths occurred in infants belonging to the artisan class. In certain of the cases prematurity and debility from birth were important predisposing causes, whilst in others the substitution of cows' milk for the natural milk of the mother was an important factor in the causation of death.

In connection with a large number of the births registered in the city during the year a leaflet was sent giving advice on the feeding of the infant. Pamphlets on the matter of infant feeding are also given out from the Out-Patient Department of the Herefordshire General Hospital, and much useful advice given by the Nurses of the Hereford City Nursing and Maternity Society.

The instruction of the older girls in the elementary schools in the feeding and care of infants will also assist in the reduction of the infantile mortality. Further reference is made to this matter in connection with the teaching of Hygiene and Temperance in schools.

While the infantile mortality rate for this year is comparatively low, there are indications that there is still ignorance in regard to the feeding of infants.

The rates for the City and the various Wards during the last 9 years are given below :—

<i>Year.</i>	<i>City.</i>	<i>Wards.</i>		
		<i>Ledbury.</i>	<i>Leominster.</i>	<i>Monmouth.</i>
1901	129	142	124	115
1902	112	129	99	100
1903	138	120	165	118
1904	124	163	107	148
1905	78	87	56	117
1906	144	176	112	145
1907	95	88	97	102
1908	95	110	82	100
1909	107	91	113	125
Average	113	123	106	119

The above table shows that as recently as 1906 the rate in Ledbury Ward was 176, whilst in 1904 it was 163, similarly in Leominster Ward in 1903 it was 165; and in Monmouth Ward in 1904, 148, and in 1909 125. For the years 1905 and 1907 the rates were low throughout the country, the summers being cool and the rainfall higher than usual; when the summers are dry and hot the rates are high. The low average for the City is also partly due to the lower birth-rate.

In a town such as Hereford, the average rate should not be more than 100, as the women are not employed in industrial occupations.

INFANTILE MORTALITY--1881-1908.

YEAR.	RATES. <i>City of Hereford.</i>		RATES. <i>England and Wales</i>	
1881	114	<i>Average.</i>	130	<i>Average.</i>
1882	132		141	
1883	126	132	137	138
1884	163		147	
1885	124		138	
1886	220		149	
1887	128		145	
1888	151	167	136	145
1889	186		144	
1890	159		151	
1891	124		149	
1892	140		148	
1893	165	145	159	151
1894	161		137	
1895	138		161	
1896	148		148	
1897	119		156	
1898	129	134	160	156
1899	146		163	
1900	130		154	
1901	129		151	
1902	112		133	
1903	138	116	132	138
1904	124		145	
1905	78		128	
1906	144		132	
1907	95		118	
1908	95		120	

ZYMOTIC DISEASE.

The zymotic death-rate for the year 1909 was .53 for the City, as compared with .71 for the year 1908 and .88 for the years 1899 to 1908. The zymotic death-rates for England and Wales for 1909 were as follows:—

	per 1,000 of population.
England and Wales	1.12
76 Great Towns	1.42
143 Smaller Towns	1.08
England and Wales less the 219 towns	0.80

The rates for the various Wards were:—Ledbury, .81; Leominster, .46; and Monmouth, .18.

The diseases included in the zymotic death-rate are seven in number:—Small-pox, Scarlet Fever, Diphtheria (including Membranous Croup), Typhoid Fever, Measles, Whooping Cough and Diarrhœa.

The number of deaths from these diseases during the year were as follows:—Small-pox, 0; Scarlet Fever, 1; Diphtheria, 1; Typhoid Fever, 0; Measles, 4; Whooping Cough, 4; and Diarrhœa, 2.

The following table shows the death-rate for the City from each of the 7 Zymotic Diseases for the year 1909, compared with the rates for England and Wales for the same period:—

	City of Hereford.	England & Wales.	76 Great Towns.	143 smaller Towns.	England & Wales less the 219 Towns.
Smallpox .....	.00	.00	.00	.00	.00
Scarlet Fever.....	.04	.09	.11	.09	.06
Diphtheria .....	.04	.14	.15	.16	.14
Typhoid Fever ..	.00	*.06	.06	.06	.06
Measles .....	.17	.25	.48	.33	.21
Whooping Cough	.17	.20	.24	.17	.16
Diarrhœa .....	.08	.28	.28	.27	.17

* Also includes deaths from Typhus and Pyrexia which form a very small proportion of the whole.

It will be seen that the rates for the City are lower than those for the 143 smaller towns in regard to each disease, except whooping cough, and also than the rates for the whole of England and Wales. The death-rate in connection with Diarrhœa is very low compared with other towns.

In the accompanying tables, the number of deaths from each of the zymotic diseases is given for each year since 1875, and the rates per 1,000 of the population for five-yearly periods and the years 1906-7-8 are also given, with the rates for England and Wales for the same periods.

The rates for the City compare very favourably with those for the whole of England and Wales.

DEATHS FROM THE SEVEN ZYMOTIC DISEASES,
1875-1909.

YEAR	Smallpox.	Scarlet Fever	Diphtheria and Membranous Croup.	Typhoid Fever.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.
1875	0	7	1	3	1	3	3
1876	0	75	0	2	12	12	9
1877	0	11	0	0	6	2	3
1878	0	4	4	0	8	7	15
1879	0	0	4	0	5	27	5
1880	0	6	1	0	1	1	28
1881	0	13	2	2	0	0	4
1882	0	12	0	0	29	9	6
1883	0	9	3	0	1	0	8
1884	0	1	1	2	0	1	14
1885	0	0	0	0	16	1	8
1886	0	1	0	1	1	21	15
1887	0	0	0	0	0	1	12
1888	3	0	4	0	1	0	4
1889	0	0	5	2	22	3	7
1890	0	0	2	0	0	7	2
1891	0	1	2	1	0	2	1
1892	0	0	0	3	3	0	0
1893	0	16	1	3	0	8	6
1894	0	3	15	0	4	4	6
1895	0	3	11	2	3	1	6
1896	0	0	11	0	0	13	5
1897	0	3	6	0	16	0	5
1898	0	0	3	1	3	0	5
1899	0	1	1	0	0	0	5
1900	0	1	1	0	11	14	4
1901	0	0	2	0	0	6	3
1902	0	0	2	0	1	2	2
1903	0	1	2	1	16	2	1
1904	0	4	7	0	1	10	3
1905	0	1	11	0	1	1	1
1906	0	0	8	1	3	10	9
1907	0	2	2	1	17	2	1
1908	0	1	2	0	5	3	6
1909	0	1	1	0	4	4	2

Diarrhoea

CITY OF HEREFORD.

Period		Scarlet Fever	Diph- theria	Typhoid Fever	Diarrhoea and Dysen- tery	Measles	Whoop- ing Cough
1876-80	No. of deaths	96	9	2	62	32	49
	Rate per 1,000	1.007	.09	.02	.65	.34	.51
1881-85	Number	35	6	4	40	46	11
	Rate	.35	.06	.04	.04	.46	.11
1886-90	Number	1	11	3	40	24	32
	Rate	.009	.108	.029	.39	.23	.30
1891-95	Number	23	29	9	19	10	15
	Rate	.22	.28	.08	.18	.09	.14
1896-00	Number	5	22	1	24	30	27
	Rate	.047	.20	.009	.22	.29	.24
1901-05	Number	6	24	1	10	19	21
	Rate	.05	.22	.009	.09	.17	.19
1906-08	Number	3	13	2	16	25	15
	Rate	.044	.194	.029	.239	.373	.224

ENGLAND AND WALES.

RATES PER 1000.						
Period	Scarlet Fever	Diphtheria	Typhoid Fever	Diarrhoea and Dysentery	Measles	Whooping Cough
1876-80	.67	.12	.27	.85	.38	.52
1881-85	.43	.15	.21	.67	.41	.45
1886-90	.24	.16	.17	.68	.46	.44
1891-95	.18	.25	.17	.65	.40	.39
1896-00	.13	.27	.17	.81	.42	.35
1901-05	.12	.20	.11	.67	.32	.30
1906-08	.091	.166	.078	.570	.286	.270

SCARLET FEVER.

Thirty-nine cases* of Scarlet Fever were notified during the year 1909, compared with 58 the previous year. 18 belonged to Ledbury Ward, 10 to Leominster and 11 to Monmouth Ward.

The following were the notifications received each month during the year :—

<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>
1	2	4	3	4	4
<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>
4	5	6	3	2	1

* Only one death occurred, of a male aged 3 years.

During the first quarter there were 7 cases : in the second quarter, 11 : third quarter, 15 : and in the last quarter, 6. The largest number of cases occurred in September.

There were 20 males and 19 females, and the ages were as follows :—

0-5 years.	5-10	10-15	15-25	25-35	35-45
9	13	11	4	1	1

Twenty-two or 56 per cent. occurred under the age of 10 years, and 84 per cent. under the age of 15 years.

The majority of the cases occurred among children, and in over half the cases under the age of 10 years.

Of the 39 notifications, three were received from the Herefordshire General Hospital, two from Camp at Llandovery, and another from the Workhouse.

The remaining 33 cases occurred in 28 houses, and 8 of these cases occurred in three houses (in two houses three occurred and in a third two cases). The average number of persons per house was 5.7 and there was on an average two or three children in each house.

In 13 houses there were 5 persons or under
„ 6 „ „ 6 persons
„ 6 „ „ 7 „

In the 3 remaining houses there were 8, 9 and 11 persons respectively.

The bedroom accommodation was as follows :—

In 4 cases there were 2 bedrooms.

10	„	„	3	„
7	„	„	4	„
3	„	„	5	„
4	„	„	6	„

Two houses with two bedrooms contained 6 and 7 persons, and two houses with three bedrooms contained 7 persons.

In several cases the houses were large, but in the majority a bedroom was not available for purposes of isolation, as the above figures show.

On the whole the sanitary arrangements were good ; in one case the drainage was obstructed ; in 3 cases the drains were improperly trapped, and in another instance there was other defect.

In connection with three houses there was a large amount of open space : 7 houses contained a yard, the portion adjoining the house being paved ; in 17 instances there was a yard and also a garden beyond.

The following are the particulars of the 8 cases which occurred in the 3 houses :—

(1) A female, F. K., aged 10 years, developed the disease on March 30th, and was removed to Hospital on April 2nd. A brother, A. K., aged 4 years, was also removed on the same date. Infection in the latter case was probably from the sister. Another brother, G. K., aged 7 years, developed the disease on May 8th.

Disinfection of rooms and bedding was carried out after removal of the cases.

(2) A female, D. B., aged 10 years, developed the disease on Aug. 27th, and was removed to Hospital on Sept. 2nd. Two sisters aged 2 and 12 years, developed the disease on Sept. 1st, and were removed to Hospital on Sept. 2nd. The first case was a mild one, but caused infection in the other sisters. D. B. had played with a female, C. A., on July 24th, who was removed to Hospital on July 27th, with Scarlet Fever. Infection in the case of D. B. had probably remained latent in the throat and the disease did not develop until a month later.

(3) A male, S. K., aged 6 years, contracted the disease on Aug. 1st. As the case was mild and there was good accommodation in the house, the child was not removed to Hospital.

Another male, G. K., 2 years of age, developed the disease on August 14th, and was treated at home. Infection was probably from the previous case.

There were no "Return cases" and only one "Secondary case," which I have just referred to.

The following case is interesting. A male developed the disease on June 28th whilst residing with some friends in Hereford, and this was probably a relapse, as the boy had already suffered from a mild attack of the disease at Newport on April 14th. No source of infection in Hereford could be traced.

Prompt removal to Hospital in the majority of instances (76.9) prevented further spread of the disease in the home. In several cases where proper isolation could be provided, the patients were not removed.

Particulars in regard to the occurrence of Scarlet Fever in Hereford from the year 1875 up to the present time are given in the accompanying table, and also the table on page 29.

With the exception of the period 1876-80 and 1891-95 the death rate from Scarlet Fever as compared with England and Wales has been lower in Hereford. For the year 1907 it was equal to that for England and Wales.

SCARLET FEVER STATISTICS, CITY OF HEREFORD.

Year.	Notifications.	Under 5 years of Age.	Total Deaths.	Attack per 1,000 Population.	Mortality per 1,000 Population.	Case Mortality per cent.	Cases removed to Hospital.	Percentage removed to Hospital.	Deaths in Hospital.
1875	..	..	7	For this period Statistics not available.	.36				
1876	..	..	75		3.90	..	..	..	..
1877	..	..	11		.37	..	..	..	..
1878	..	..	4		.20	..	..	..	..
1879	..	..	0		.00	..	..	..	..
1880	..	..	5		.25	..	..	..	..
1881	..	..	13		.65	..	..	..	..
1882	..	..	12		.60	..	..	..	..
1883	62	20	9		3.10	.45	14	..	..
1884	21	11	1		1.05	.04	4	..	..
1885	7	3	0		0.35	.00	0	..	..
1886	15	5	1		0.75	.04	5	..	..
1887	33	3	0		1.65	.00	0	..	..
1888	9	4	0		0.44	.00	0	..	..
1889	14	6	0		0.69	.00	0	..	..
1890	32	9	0		1.58	.00	0	..	..
1891	26	10	1		1.28	.04	3	..	..
1892	72	40	0		3.53	.00	0	..	..
1893	165	94	16		8.07	.78	9	15	9
1894	146	81	3		7.09	.14	2	38	26
1895	155	54	3		7.48	.14	1	70	45
1896	70	20	0		3.35	.00	0	17	24
1897	65	25	3		3.09	.14	4	39	60
1898	31	8	0		1.46	.00	0	15	51
1899	39	13	1		1.83	.04	2	32	85
1900	37	15	1		1.73	.04	2	24	63
1901	51	15	0		2.38	.00	0	32	63
1902	56	8	0		1.67	.00	0	27	75
1903	24	8	1		1.10	.04	4	12	50
1904	65	8	4		2.96	.18	6	45	69
1905	55	6	2		2.49	.09	3	35	64
1906	31	6	0		1.39	.00	0	22	71
1907	34	8	2		1.52	.08	6	26	76
1908	58	9	1		2.59	.04	1	45	77
1909	39	9	1		1.73	.04	2	30	76

(a) For the period, 1883 to 1889 inclusive, notification was voluntary consequently comparisons with other years are highly unsatisfactory or worthless. Compulsory Notification was adopted in January, 1890, and the Isolation Hospital opened in May, 1893.

(b) The Isolation Hospital was closed to the public by order of the Sanitary Committee on February, 24th 1902, pending the erection of a Temporary Isolation Hospital for Smallpox cases. The Hospital was re-opened on 21st April. During that period 8 patients suffering from Scarlet Fever were treated in their own homes.

(c) These persons were in a hopeless condition when removed to Hospital.

(d) Of these 4 cases, 2 were of a malignant character, and considered almost hopeless before removal to Hospital; the third case was complicated by Diphtheria; the fourth was accompanied by Bronchitis.

(e) This was a case from the Rural Districts admitted into the General Hospital, and removed thence to the Isolation Hospital.

DIPHTHERIA.

During the year 18 cases* of Diphtheria were notified, compared with 26 cases in 1908, 8 males and 10 females. Eight cases occurred in Ledbury Ward, eight in Leominster Ward and two in Monmouth Ward.

The ages were as follows :—

Age periods.	1-5	5-10	10-15	15-25	25-35
No. of cases.	3	9	3	1	2

The majority of cases occurred below the age of 10 years.

In connection with these 18 cases, one death occurred, that of a male aged 4 years, who was treated at home.

Eight cases were removed to Hospital and all recovered.

The sanitary condition of the houses was on the whole satisfactory. In two instances there were drainage defects, and in two other cases nuisances. In one case the water supply was derived from a well. The water, on chemical analysis, was found to be contaminated and the well was reconstructed, and some drainage defects remedied. In connection with one house there was a large amount of open space ; 11 houses had a paved yard, and 6 houses a yard and garden. The majority of cases occurred in working class houses.

The average number of persons per house was 5.5.

In	10	houses	there	were	5	persons	or	under.
„	4	„	„	„	6	persons		
„	1	house	„	„	7	„		
„	1	„	„	„	8	„		
„	1	„	„	„	9	„		
„	1	„	„	„	11	„		

The bedroom accommodation was as follows :—

In	7	cases	there	were	2	bedrooms.
„	7	„	„	„	3	„
„	2	„	„	„	4	„
„	1	case	„	„	6	„

One case occurred in a lodging-house.

* Only one death occurred, of a male aged 4 years.

In several houses the accommodation was insufficient, the particulars are as follows :—

(1) A house containing 2 living rooms and 2 bedrooms contained 2 adults and 4 children.

(2) A house with 3 living rooms and 3 bedrooms contained 4 adults and 3 children.

(3) Two adults and 4 children resided in a house with two living rooms and two bedrooms.

Where isolation could not be properly carried out, as in the cases just referred to, the patients were removed to Hospital. Removal was also carried out if the case were serious and no proper nursing could be provided.

Swabs were taken either by the Doctor in attendance or myself from the throats of persons residing in the same house as the patient : in addition swabs were taken in a number of cases for purposes of diagnosis, and in other cases for purposes of disinfection. The following are particulars :—

	<i>Positive.</i>	<i>Negative.</i>	<i>Suspicious.</i>	<i>Total.</i>
Diagnosis	15	21	6	42
Contacts	1	36	4	41
Disinfection	13	31	8	52

Twenty-eight swabs were taken at the Isolation Hospital, 5 for diagnosis and 23 for disinfection.

The swabs were examined in the Laboratories of the University of Bristol.

The following case is of interest. During medical inspection of school children at one of the schools, my attention was drawn to a boy, J. B., aged 10 years, who suffered from nasal discharge, at times accompanied by bleeding. Nasal diphtheria was suspected and a swab taken from the nose for bacteriological diagnosis was found to contain diphtheria bacilli. This case occurred in a lodging-house. The boy was promptly removed to Hospital and not discharged until free from infection. No further cases occurred.

The following table shows the number of notifications of cases in the City since the year 1890, with the case mortality :—

<i>Year.</i>	<i>Number of cases.</i>		<i>Deaths.</i>		<i>Case Mortality per cent.</i>
1890	11		2		
1891	11		2		
1892	6		0		
1893	7	99	1	29	29.2
1894	48		15		
1895	27		11		
1896	33		11		
1897	11		6		
1898	20	74	3	22	29.7
1899	4		1		
1900	6		1		
1901	9		2		
1902	14		2		
1903	18	132	2	24	18.1
1904	36		7		
1905	55		11		
1906*	102		8		
1907	21	167	2	14	8.3
1908	26		3		
1909	18		1		

* Of the 166 cases notified in 1906, 64 were carriers.

ERYSIPELAS.

Eighteen cases were notified compared with 25 last year; 10 males and 8 females. There were no deaths. Twelve cases occurred in Ledbury Ward, and 6 in Leominster Ward.

Of these cases 5 were notified from the Herefordshire General Hospital, 1 from the Workhouse and 1 from the Prison. The ages were as follows :—

Age period..	1-5	10-15	15-25	25-35	35-45	45-65	65 & upwards.
No. of cases	2	0	2	3	3	4	3

A female aged 50 years had two attacks of the disease during the year.

The parts affected were as follows :—

Face, 6; head and face, 1; arm, 3; leg, 5; and the foot in 3 cases.

There was a history of injury in 7 cases. No secondary case of infection occurred in connection with any of the cases. There were no sanitary defects in connection with the houses.

PUERPERAL FEVER.

No case of this disease was notified during the year. The notifications during the previous 10 years are as follows:—

1908	1907	1906	1905	1904	1903	1902	1901	1900	1899
0	2	3	3	2	2	1	0	0	0

The deaths from this disease are given in the table on page 18. The average death rate per 1,000 of the population for the 10 years 1899 to 1908 was .03.

TYPHOID FEVER.

Six cases were notified during 1909, compared with 1 in 1907. There were no notifications of this disease in 1908.

Five were males; one was a female. Two cases were in Ledbury Ward, 3 in Leominster and 1 in Monmouth Ward. One death occurred from the disease, and this is included in the deaths registered during 1910. A female belonged to Holmer and resided outside the City; this case was notified on account of removal of the patient to the General Hospital. The ages were as follows:

Age periods	5-10	10-15	35-45	45-55
No. of cases	2	2	1	1

The drainage of all the houses was satisfactory: water closets were provided in each case. There was a large amount of open space in connection with one house, and in the case of three other houses the yards were properly paved and there was also a back garden attached to two of the houses. A receptacle was in use for refuse and this was emptied at frequent intervals. The town water was supplied to each of the houses.

Three of the cases occurred in one house. This house contained 3 living rooms and 3 bedrooms, and accommodated 4 adults and 5 children, viz:—two females, 10 and 16, and 3 males, 5, 7 and 14 years of age. A male, 14 years, developed the disease on April 25th and was isolated at home in a separate bedroom. Another brother commenced with the disease on June 7th and the other brother on June 12th.

There can be no doubt that infection in the last two cases was received from the previous case.

The source of infection in the first case and in two other cases in the town was not traced. The following table shows the notifications and case mortality since 1891.

<i>Year.</i>	<i>Notifications.</i>		<i>Deaths.</i>		<i>Case Mortality per cent.</i>
1891	7		1		
1892	6		3		
1893	8	27	3	9	33.3
1894	2		0		
1895	4		2		
1896	3		0		
1897	5		0		
1898	4	15	1	1	6.6
1899	2		0		
1900	1		0		
1901	3		0		
1902	2		0		
1903	1	9	1	1	11.1
1904	3		0		
1905	0		0		
1906	3		1		
1907	1	10	1	2	20
1908	0		0		
1909	6		0		

DIARRHOEA.

Two deaths from zymotic diarrhoea occurred during the year. One death occurred in Leominster Ward and one in Monmouth Ward. Two other deaths were also registered of diarrhoea, viz., that of an infant 5 months and of a female aged 70 years.

(1) Male, 15 days (illegitimate) died on August 31. Had not been fed on breast milk, but had received diluted cows' milk out of a boat-shaped bottle. The baby was weakly from birth. The accommodation and sanitary arrangements of the house were good. Food was kept in the scullery.

(2) Male, 3 months, died on Sept. 30. Was fed on breast milk for the first 6 weeks and then on cows' milk diluted with barley-water out of a boat-shaped bottle. Total children, four, two living and two dead. The house contained 3 rooms and a scullery and 2 bedrooms, and there were 2 adults and 2 children

aged 2 and 4 years. The sanitary arrangements were on the whole satisfactory. The food was kept in a cupboard in the kitchen. There was a common yard, partly concreted, for this house and the three adjoining houses, and a garden beyond in which there was an accumulation of manure at the far end. Old boxes and other receptacles were used for refuse. In the same house a female aged 4 years had suffered from diarrhœa about the same time, and also a male aged 1 year 8 months in an adjoining house on one side and a female aged 4 years in a house on the other side. The disease was probably conveyed about by flies which settle on milk and other food. Manure heaps and other refuse provide suitable breeding places for these pests.

During the summer months leaflets were forwarded to the occupants of a large number of houses, in which there had been recent births, giving directions in regard to the protection of food from flies and dust, and the importance of general cleanliness.

It was also recommended that all food should be stored in a clean, cool place; that milk should be boiled shortly before use in hot weather, and that no unwholesome food, or unripe or over-ripe fruit should be eaten.

MEASLES.

During the year 4 deaths occurred from this disease, compared with 5 during 1908; there were 3 deaths in March and 1 in April.

In 3 cases Pneumonia was given as a secondary cause. All 4 deaths occurred in Ledbury Ward. One was a male aged 14 months, and 3 were females aged 7 months, 16 months and 5 years. All the deaths occurred at ages of 5 years and under, and it is usually at this period that deaths occur; it is therefore important to prevent children developing this disease and also Whooping Cough at an early age. Further reference is made to this disease and Whooping Cough later.

WHOOPIING COUGH.

Four deaths occurred during the year compared with 3 in 1908. The deaths occurred in the months of January, February, April and May; there were 2 in Ledbury and 2 in Leominster Ward.

There was one death of a male aged 3 months and 3 deaths of females aged 3 months, 5 months and 2 years.

In connection with one death, Pneumonia was mentioned as a secondary cause. A large number of deaths from Measles and

Whooping Cough could be prevented by careful nursing. Chest complications are common, and children are often allowed to go out too soon.

INFLUENZA.

There were 2 deaths from this disease during the year, compared with 3 in 1908. The deaths were of a male aged 52 years and a female 36 years, and both occurred in Monmouth Ward.

The disease was present in epidemic form during the latter part of the year, but did not assume a virulent type. One of the deaths occurred in October and the other towards the end of December.

SMALLPOX.

There were no cases during the year. In the Annual Report for 1908 an account was given of the cases which had occurred in the City during the last 30 years.

The tables which follow in regard to Vaccination show that the number of so-called "conscientious" objections to vaccinations has increased. This is very much to be regretted, and disastrous results would follow this neglect of vaccination, should any cases of smallpox occur in the town. It is only by vaccination and re-vaccination that a community can protect itself from this loathsome disease. A severe epidemic of smallpox visited Gloucester in 1896, and the large number of cases which occurred was largely owing to the small proportion of vaccinated persons among the inhabitants. I hope what happened in Gloucester will be a warning to those mothers in Hereford who are foolish enough not to give their babies the protection which vaccination provides against the disease. It is to be hoped that legislation making vaccination compulsory will be shortly introduced.

VACCINATION.

PERIOD.	No. of Births Registered.	Success fully Vaccinated.	Insus-ceptible to Vaccina-tion.	Had Small-pox.	Number in respect of whom Certificates of Conscienti-ous Objection have been received.	Died Un-Vacci-nated.	Postpone-ment by Medical Certificate.	Removals of which Vaccination Officer was apprised.	Unknown Removals. Cases not found.	Unaccounted for.
Year ending Dec. 31, 1908	485	335	2	0	42	36	32	20	16	2
Jan. 1st to June 30, 1909	249	138	0	0	53	17	25	7	3	6

The number of "conscientious" objections for the year 1908 was 8 per cent. of the total births compared with 5 per cent. for the year 1907. For the 6 months, January to June 1909, the percentage of objections was 21, compared with 7 per cent. for the same period in 1908.

For particulars in the above table I am indebted to Mr. R. Moore, Clerk to the Guardians.

The vaccination returns for the calendar year ending 1907, published in the 38th Annual Report of the Local Government Board, show that the County of Herefordshire stood 10th in the list of counties in England and Wales in regard to the number of infants vaccinated by Public Vaccinators.

In 1907 the ratio of successful primary vaccinations of infants under one year to births for the whole County was 82.7 per cent. In regard to neighbouring counties, the percentage was 82.4 for Worcestershire, 73.8 for Warwickshire, and 59.2 for Gloucestershire.

CITY HOSPITALS.

During the year 30 cases, *i.e.*, 76.9 per cent. of the notified cases of Scarlet Fever, and 8 cases of Diphtheria, *i.e.*, 44 per cent, were removed to Hospital. Many cases recovered under careful nursing which would probably have proved fatal if treated at home. There was only one death among the Scarlet Fever patients, that of a boy aged 3 years. This boy had been seriously ill for several days before being removed to Hospital.

Particulars in regard to number of days in Hospital, etc., are given in the Table on page 42.

There were 4 negative cases admitted, *viz.*, two cases of Erythema and a case of Tonsillitis, mistaken for Scarlet Fever, and in another instance Meningitis was mistaken for Diphtheria with Paralysis. The complications and sequelæ were as follows :—

SCARLET FEVER.	
Nasal discharge	1
EXCORIATIONS.	
Angles of mouth	2
Chin	1
Ear	1
Nose	2
Cervical Adenitis	2
Ophthalmia.....	1
Bronchitis	1
Otorrhœa (left)	1
Dilated Heart	3
Gastro-enteritis	1

Two cases were complicated by Diphtheria, which was present at the onset of the disease before removal to Hospital.

In connection with a male aged 28, delirium tremens occurred, but this was determined by previous alcoholic excess.

The complications associated with the cases of Scarlet Fever in connection with the nose and ear were few in number. This was probably due to the fact that the number of patients in the Hospital at any particular time was very small, and so there was a large amount of cubic space available.

DIPHTHERIA.—The following complications occurred :—

Dilated Heart	3 cases.
Cardiac Paralysis	2 „
Paralysis of:	
Palate	1 case.
Ocular Muscles	1 „
Nasal Diphtheria	1 „
Conjunctivitis (left)	1 „
Bronchitis	1 „

The following tables show the case mortality per cent. of cases treated in the City Isolation Hospital since the year 1893, compared with cases treated in the Metropolitan Asylums Board Fever Hospitals.

SCARLET FEVER.

<i>Periods.</i>	<i>Hereford City Hospital.</i>			<i>London Fever Hospitals.</i>
	<i>Admis- sions.</i>	<i>Deaths.</i>	<i>Case Mortality per cent.</i>	<i>Case Mortality per cent.</i>
1893-1897	179	3	1.6	5
1898-1902	132	2	1.5	3
1903-1907	140	7	5.0	3
1908-1909	75	2	2.6	

DIPHTHERIA.

1893-1897	1	1		23
1898-1902	3	1	50	13
1903-1907	76	8	10.5	9
1908-1909	13	0	0	

ISOLATION HOSPITAL, 1909.

DISEASE.	Patients remaining in Hospital on January 1st, 1909.*		Patients Admitted and Discharged in 1909.		Patients remaining in Hospital on January 1st, 1910.		Total Number Discharged.	Average Days in Hospital.	Total Deaths.	Average Days in Hospital.
	Total	Recovered	Died.	Total	Recovered	Died.				
Scarlet Fever....	12	12	..	27†	26	1	38	49.0	1	13
Diphtheria	5	5	..	5	54.6
Other Diseases	4	4	..	4	6.25
Totals	12	12	..	36	35	1	47	46.0	1	13

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* The average number of days in Hospital of the 12 cases of Scarlet Fever remaining over from 1908 was 82.9.

† Two of these cases were also complicated by Diphtheria.

NOTE.—The average number of beds occupied during 1909 was 4.7.

The decreased rate in the case mortality from Diphtheria during the last 10 years is due to the antitoxin treatment. At the Brook Fever Hospital (Metropolitan Asylums Board) in London, statistics have been kept showing the case mortality from Diphtheria according to the day of admission. Particulars are as follows :—

				<i>Mortality per cent. in cases treated 1897-1907.</i>
Cases treated on	1st day	.....		0
"	"	2nd "	.....	4.29
"	"	3rd "	.....	11.24
"	"	4th "	.....	16.89
"	"	5th "	and afterwards	18.58

The mortality of cases of Scarlet Fever and Diphtheria treated in the City Hospital is comparatively low. Some of the cases of Scarlet Fever and more particularly of Diphtheria have been sent in a moribund condition, when very little could be done for them. It is most important, as the above table shows, that antitoxin should be injected as early as possible after the onset of the disease in cases of Diphtheria, and the longer the treatment is delayed the greater the mortality.

In the early part of the year the furnishing of the additional quarters of the nursing staff was completed at a cost of £26. The building which is of galvanized iron, was erected in 1908 at a cost of £289. During the year the exterior of the Hospital was painted.

I am indebted to Mr. Birch, the chief accountant, for the following particulars in regard to the expenditure in connection with the Hospital for the years 1908-9 :—

	£
Medical Superintendent	150
Matron	55
Maids	52
Nurse (including temporary)	59
Porter	63
Drugs	25
Labour, Repairs, Printing	44
Rent, Rates, Insurance	33
Coal, Coke, Firewood	85
Provisions	184
Petty Cash	8
Hauling Coal, &c.	19
Ironmongery, Crockery, Furniture	70
Telephone Subscription	14
Gas and Fittings	26
Cycle for Porter and Contingencies	8
	<hr/>
	£895
	<hr/>

I have worked out the cost per head for patients and staff in regard to food for the year ending Dec. 31st, 1909. This amounts to 7s. 5d., which is very moderate. About £8 has been saved on account of the vegetable produce from the garden. The cost of maintenance and nursing staff is always greater in proportion in connection with a Hospital containing a small number of patients as compared with a larger institution: the same applies to the cost of lighting and fuel.

On several occasions it was necessary to re-open the Diphtheria block for one patient, and this meant, in several instances obtaining the services of special nurses for night and day duty at a few hours' notice. Had there been half a dozen cases in the wards the cost for nursing would have been the same.

Special nurses were only engaged for a short period until other temporary nurses could be procured, and a considerable saving was effected, as the rate of pay in one case was £2 2s. per week, and in the latter case 12s. 6d. to 15s. per week. When there were no patients in the Diphtheria block the beds had to be kept ready for use, and this meant using the radiators or stoves in connection with this block. The wards at the Smallpox Hospital were also heated at intervals.

DISINFECTION.

The following are particulars in regard to disinfection of houses and bedding, with the exception of phthisis, which is referred to on page 51.

<i>Disinfection.</i>	<i>Houses.</i>	<i>Bedding.</i>
After Scarlet Fever	*34	†32
„ Diphtheria	15	13
„ Typhoid Fever	2	2
„ Erysipelas	—	1
„ Measles	2	—
„ Other Diseases	3	‡3
Total	56	51

* Including 1 railway carriage.

† „ 1 lot of R.A.M.C. kit.

‡ „ 2 lots of verminous bedding.

The whole of the bedding and the following articles were disinfected by steam :—

- 65 Articles of Clothing.
- 4 Rugs.
- 3 pair Curtains.
- 6 Towels.
- 13 Cushions.
- 40 Miscellaneous Articles.

The rooms were disinfected with formalin vapour.

DISINFECTANTS.—It is important that the strength of disinfectant should be known. This is usually expressed as the carbolic acid coefficient, and is found by comparing the germicidal power of a given disinfectant and that of a known dilution of carbolic acid simultaneously, and expressing the microbe-killing power of the former in terms of carbolic acid. It is possible in this way to say that the germicidal power of a given disinfectant is 5, 10, or 20 times that of standard carbolic acid, and the figures obtained are the "carbolic acid coefficient" of the particular disinfectant under consideration. The carbolic acid control should be performed at the same time and under precisely similar conditions as the disinfectant which is being tested; a vigorous growth of *Bacillus Typhosus* is generally used for the experiments.

At my suggestion the following was added to the tender forms for disinfectants, which were sent out to the various firms on application.

<i>Description of Article.</i>	<i>Cost per gallon.</i>	<i>Carbolic acid † coefficient.</i>
Disinfectant Fluid (in 40 gallon casks), miscible with water in all proportions to form a homogeneous solution.		

† State conditions under which the test was made, and bactericidal efficiency tested against a vigorous culture of the *Bacillus Typhosus*. The "carbolic acid coefficient" was also asked for in connection with disinfectant powder tendered for. As a result only reliable firms sent in tenders, and a good disinfectant at a moderate cost was secured.

PHTHISIS.

Twenty-eight deaths occurred from this disease during the year, of 15 males and 13 females.

The ages at death were as follows:—

Years	15-20		20-25		25-35		35-45		45-55		55-65		65-75	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Number	1	—	—	3	1	4	6	3	4	2	2	1	1	—

There were 14 deaths in Ledbury, 8 in Leominster and 6 in Monmouth Ward: 4 deaths occurred in the Herefordshire General Hospital, 2 in the Workhouse and 1 in Burghill Asylum.

Eight of the deaths occurred in the first quarter, 9 in the second, 7 in the third and 4 in the last quarter of the year.

The rate per 1,000 of the population was 1.24 compared with 1.13 for the previous 10 years.

The following were the Phthisis rates for the years 1899-1908 in connection with the following towns:—York, 1.23; Cambridge, 1.09; Crewe, .68; Blackburn, 1.07. The rate for Gloucester for the years (1904-08) was 1.02.

There have been too many deaths in the past from phthisis in this town, and it is to be hoped that the number will become less in the future as the result of measures which are being taken against the spread of the disease.

The following Table shows the death-rates per 1,000 for the City and England and Wales since 1876:—

<i>Period.</i>	<i>Hereford.</i>		<i>England & Wales</i>
	<i>Number of deaths.</i>	<i>Rate per 1,000.</i>	<i>Rate per 1,000.</i>
1876-80	163	1.7	2.03
1881-85	163	1.6	1.8
1886-90	121	1.2	1.6
1891-95	152	1.4	1.4
1896-1900	141	1.3	1.3
1901-05	120	1.10	1.2
1905-08	79	1.18	1.13

The death-rate from Phthisis for England and Wales has declined nearly 50 per cent. since 1876; the death-rate for the City has not declined at the same rate.

NOTIFICATIONS.

Twenty Poor-law cases were notified (two of which had been previously notified voluntarily). Eight voluntary notifications were received, including 3 from the Herefordshire General Hospital.

Six of the Poor-law cases (all males) were treated in the Work-house (one for a short time only); of these cases two afterwards died in this institution.

The following table shows the notifications arranged in months :--

<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>
4	1	1	2	2	1
<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>
2	2	2	5	4	2

During the year I made enquiries in regard to 21 notifications, 12 males and 9 females. Of these 14 were Poor-law cases, 8 males and 6 females; and 5 were voluntary notifications, 3 males and 2 females.

The particulars in regard to each case were entered on a card at the time of the visit.

Eight of the cases notified died during the year and of these 7 were Poor-law cases and one was a voluntary notification.

Of the notified cases the ages were as follows :—Males, 9, 18, 20, 27, 28, 29, 30, 37, 44, 49, 50 and 62; females, 12, 21, 28, 29, 33, 39, 49, 49 and 54.

Visits were also paid in regard to 10 deaths of 5 males and 5 females.

NOTIFICATIONS AND DEATHS.

DURATION OF ILLNESS.—The following are particulars in regard to the notified cases :—

In 1 case	the illness	had lasted	4 months.
„ 8 cases	„	„	6 months.
„ 2 „	„	„	6 to 12 months.
„ 2 „	„	„	1 year.
„ 2 „	„	„	2 to 3 years.
„ 4 „	„	„	3 years.
„ 1 case	„	„	4½ years.
„ 1 „	„	„	5 years.

In regard to the 10 deaths, in 3 cases the illness had lasted 1 to 2 years, in 3 cases 3 years and in 2 four years.

CONTINUED WORKING.—It is interesting to note for what period work was continued after the onset of the disease.

Under one month	2	had continued working.
From 1 to 2 months	3	„ „
„ 2 to 3 „	2	„ „
„ 3 to 6 „	3	„ „
„ 6 to 12 „	8	„ „
„ 1 to 2 years	1	„ „
„ 2 to 3 „	2	„ „
„ 3 to 4 „	2	„ „
„ 4 to 5 „	1	„ „

(This list includes notifications and deaths.)

A boy attended school for over a year after the onset of the disease. In the case of a girl there was absence from school after the onset on account of defective vision.

SOURCE OF INFECTION.—The disease was probably contracted from a mother in one case, husband in 2 cases, wife in one, brother in one and work companions in 3 cases. The details are as follows :—

(1) Female, 33 years. The disease was probably contracted from the husband and developed after his death.

(2) Female, 49 years. The disease developed a short time after the death of the husband.

(3) A male, 49 years. Probably contracted the disease from a brother. There was also a history of intemperance.

(4) A female, 21 years. Probably contracted the disease from her mother, whom she waited upon during her illness.

(5) A male, aged 29 years. Was probably infected by his wife, who died from the disease a few months before the onset of illness in the husband.

(6) A male, 18 years. Probably infected by one of his fellow coal miners.

(7) A male, 24 years. Was infected by one of his work companions, a stonemason. Consumption is very common amongst men following this occupation.

(8) A female, 24 years. Had only resided in Hereford a short period before death. She had previously lived in Kidderminster, and was employed in carpet making. Consumption is not uncommon in connection with this industry on account of the dust, and there would be chances of receiving infection from work companions.

HEREDITARY PRE-DISPOSITION.—There was a family history of consumption in 9 cases. The particulars as follows :—

The mother had died from consumption in two cases.

The father, an uncle, an aunt, two sisters and a brother in another case.

A father in one instance and a brother and other relations in another case.

There was a history in two cases of uncles (in one case on the mother's and in the other case on the father's side).

In one instance the grandfather on the father's side, and in another case two aunts on the father's side had been affected with consumption.

OCCUPATION.—The occupations followed by those persons in respect of whom notifications had been sent were as follows :—

Males.—Four were general labourers, 2 coalminers, one worked in a skin yard, one was a painter, and the other a plumber.

Females.—Two were servants and 2 were engaged in washing and cleaning. In the case of 4 females no occupation was followed.

In regard to the deaths, 5 males had pursued the following occupations :—Stonemason, labourer, teacher of music, hospital porter, and grocer's assistant.

Four females had been employed as follows :—Charwoman, servant and barmaid, dairymaid, and carpet maker. One female had followed no occupation.

PREVIOUS ILLNESSES.

RESPIRATORY DISEASE.—A male aged 44 years had suffered from Pneumonia on three occasions, viz., 5, 8, and 19 years before contracting consumption.

Two females, aged 49 years, had suffered from Bronchitis and Asthma for some years.

A male, aged 9 years, had suffered from Bronchitis previous to the onset of the disease.

OTHER.—A female, aged 33 years, had always been anæmic.

In the case of a female aged 29 years, there had been weakness after a confinement, and Phthisis developed six months later.

In regard to several others it was stated that they had never been strong.

SOCIAL HABITS.—(Including notifications and deaths).—Of adults, 9 were total abstainers, 2 males and 7 females.

Seventeen persons were stated to be temperate, 12 males and 5 females.

In the case of 2 males and 1 female, there had been intemperance for some years previous to the onset of consumption.

SANITARY CONDITION OF HOUSES VISITED.

2	houses	had	2	rooms.
3	"		3	"
17	"		4	"
9	"		5	"
In 2	houses	there	was	1 bedroom.
In 20	"	there	were	2 bedrooms.
In 8	"		3	"
In 1	house		4	"

The majority of the houses contained 2 bedrooms only.

In 17 houses there was a scullery and 12 contained a cellar. The number of occupants, including the consumptive, was as follows :—

In 25	houses	there	were	5	persons	or	less.
In 1	house			6	persons.		
In 3	houses			7	"		
In 1	house			8	"		
In 1	"			10	"		

The average number of persons per house was 4.1. This is below the average number of persons per house (4.68) as ascertained in 1901. The six persons referred to above were accommodated in 2 bedrooms. In the case of the 7 persons, the number of bedrooms was 3, 3 and 2 respectively. Eight persons were accommodated in 2 bedrooms, and 10 persons in 4 bedrooms.

Isolation of the consumptive in a separate bedroom would be a matter of difficulty in the majority of cases. In several instances there was overcrowding.

In three instances the bedrooms were damp: in two cases owing to defective spouting, and in one case the back-kitchen was below the level of the ground, and on this account the bedroom wall was damp. In 5 instances the ground floor was damp, but there was no dampness in the bedrooms. Two of the houses were dirty and one was fairly clean. The remaining houses were on the whole satisfactory.

All the houses were supplied from the public water supply. In connection with sanitary conveniences, the water carriage system was in use in all the houses except one, where a privy was provided.

The drainage was on the whole satisfactory ; in two instances the drains were not properly trapped, and in another case there was a blockage.

For refuse disposal old boxes and other receptacles were in use ; boxes were used in the majority of cases, a galvanized iron bin in only one instance.

In 7 instances the onset of consumption had developed during residence in another house. A male had been 9 months in the Asylum, and had previously resided in various parts of the country before taking up his abode in Hereford. He had suffered from the disease for 4 years.

Two youths had resided in Tredegar, where they followed the occupation of coal miner.

A male had resided for 12 months in Bath Street, and previously in Waterman's Court. The interiors were in both cases dilapidated and both houses have been recently renovated.

A female had previously resided next door and previous to this in Ledbury Road.

A male had resided in Kyrle Street previously. The interior was renovated before occupation by the new tenant.

PRECAUTIONS TAKEN.

(I.) AT HOME.—The affected persons slept in a separate bedroom in 15 cases. In regard to the disposal of sputum, in 4 cases the sputum was received into rags and paper, which were afterwards burnt. The sputum in 12 cases was received into a cup or other receptacle, and the contents emptied down the drain. Some disinfectant was placed in the vessel in only two instances. Handkerchiefs were used in several instances, the handkerchiefs being afterwards boiled. In some cases expectoration was conveyed direct to the fire ; in other cases no precautions as to the disposal of sputum were taken. Pocket spit-bottles, which can be used by the consumptive when out of doors, instead of expectorating on to the pavement, were provided in two cases.

(II.) AT WORK.—In no instance were any special precautions taken whilst at work. Pocket spit-bottles would be very useful in such cases.

DISINFECTION.—Disinfection of rooms was carried out in 13 cases, and of the bedding in 4 cases. Of these 10 were Poor-law notifications and 2 voluntary. A room was disinfected in connection with the removal of a consumptive ; this case was not notified.

After death the rooms in 9 cases and the bedding in 3 were disinfected. In several cases disinfection of rooms was carried out by the friends or relatives.

BACTERIOLOGICAL EXAMINATION OF SPUTUM.—Sputum was sent to University College, Bristol, for examination in 6 instances, and tubercle bacilli were found in 3 cases; one of these was afterwards notified.

OTHER FORMS OF TUBERCULOSIS.

Fifteen deaths occurred during the year from other forms of tubercular disease than Phthisis of 9 males and 6 females; 3 deaths occurred in Ledbury, 8 in Leominster and 4 in Monmouth Ward.

The rate per 1,000 of the population was .66, compared with .49 for the year 1908 and .55 for the 10 years 1899-1908. There has thus been a slight increase over last year's rate. The ages at death were as follows:—

Years	0-1		1-5		10-15		20-25		55-65	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Number	5	2	2	3	1	—	—	1	1	—

Twelve deaths (80 per cent.) occurred under the age of 5 years.

The deaths were as follows:—Meningitis, 8; Tabes Mesenterica, 1; General Tuberculosis, 3; Laryngitis, 2; and Disease of Spine and Hip, 1.

OTHER FORMS OF TUBERCULOSIS, 1898-1907.—In the Annual Report for 1908 I gave the results of enquiries regarding deaths from Phthisis which occurred during the 10 years 1898-1907, and I now give the results of enquiries in respect of deaths from other form of Tuberculosis during the same period.

Altogether there were 111 deaths from Tubercular Disease (other than Phthisis) during this period, of 56 males and 55 females. Thirty-seven deaths occurred in Ledbury, 42 in Leominster and 27 in Monmouth Ward. (In 5 cases where the death occurred in the General Hospital the Ward was not stated). The death rate per 1,000 for males for the period 1898-1907 was .55, compared with .58 for England and Wales; for females the rate was .47, compared with .48 for England and Wales.

The rate for children under 5 years for the City for the years 1898-1907 was .26, compared with .28 for England and Wales.

The ages at death of the 111 cases were as follows :—

Age Periods	0-1	1-5	5-10	10-15	15-20	20-25	25-35
Number	33	27	8	11	5	6	4
	35-45	45-55	55-65	65-75	75 & upwards		
	7	3	4	2	1		

It will be seen that 60, *i.e.*, 54 per cent, are under the age of 5 years, and 90, *i.e.*, 81 per cent, under the age of 25 years.

In the following table the number of deaths at various age periods in regard to Phthisis and other forms of Tuberculosis are compared :—

	0-1	1-5	5-10	10-15	15-20	20-25	25-35
Phthisis	5	6	6	6	17	27	52
Other forms of Tuberculosis	33	27	8	11	5	6	4
	35-45	45-55	55-65	65-75	75 & up.		
Phthisis	67	37	20	2	2		
Other forms, of Tuberculosis ..	7	3	4	2	1		

The total deaths from all forms of Tuberculosis (including Phthisis) for the years 1898-1907 was 358. The percentages of total deaths at the following age periods were as follows :—

	Under 25			
Age Period.	years.	25-45	45-65	65 & up.
Phthisis	18.71	33.24	15.92	1.12
Other forms of Tuberculosis	25.14	3.07	1.96	.84

It will be seen that a larger percentage of deaths occurred from other forms of Tuberculosis than Phthisis under the age of 25 years and that after 25 years the percentage of deaths from other forms was low compared with that from Phthisis. The percentages in regard to deaths up to the age of 25 years are as follows :—

Age period	0-1	1-5	5-15	15-25
Phthisis	1.39	1.68	3.35	12.29
Other forms	9.22	7.49	5.31	3.11

These figures show that under 25 years of age a larger percentage of deaths other than Phthisis occurred at age periods 0-1, 1-5, and 5-15. After 5 years of age the percentage of deaths from Phthisis to 15 years was nearly as high, whilst from 15 to 25 years it was nearly 4 times as great.

Of the 111 deaths from other Tubercular Disease than Phthisis, the cause of death was as follows :—

Meningitis	52	..	46.84 per cent.
Tabes Mesenterica	7	..	6.31 „
Peritonitis	12	..	10.81 „
Enteritis	7	..	6.31 „
General Tuberculosis	21	..	18.92 „
Bone disease	5	..	4.50 „
Other	7	..	6.31 „

Of the 111 deaths referred to above 81 per cent. occurred under the age of 25 years (30 per cent. under the age of 1 year, and 54 per cent. under the age of 5 years), as compared with the 247 deaths from Phthisis, of which 72.8 per cent. occurred after the age of 25 years (48.1 per cent. between the ages of 25 and 45 years).

The rates per 1,000 of the population for other forms of Tuberculosis than Phthisis for the years 1893-1907 for the City and for England and Wales are as follows :—

	<i>Males</i> (<i>All ages</i>).	<i>Females</i> (<i>All ages</i>).	<i>Children</i> <i>under 5 years</i> .
City of Hereford ..	.55	.47	2.67
England & Wales ..	.58	.48	2.85

The death-rate from General Tuberculosis for the City for the same period was .09 per 1,000 and that for other Tubercular diseases excluding Meningitis and Tabes Mesenterica and Peritonitis was .08 per 1,000.

All the deaths from Tubercular Meningitis during the 10 years and a large proportion of the deaths from Tabes Mesenterica and Peritonitis also occurred under the age of 5 years.

The following are particulars in regard to the deaths which occurred in various streets in the City.

Number of deaths	4	3	2	1	Total.
Streets	5	6	11	35	57
Total	20	18	22	35	95

In addition 15 deaths occurred in the Herefordshire General Hospital and 1 in the Workhouse; in connection with these cases the addresses were not stated. The following is a list of the streets in which the cases occurred :—

4. Catherine Street, Millbrook Street, Moorfield Street, Ryelands Street, Wye Street.
3. Bath Street, Foley Street, Friar Street, Highmore Street, Whitecross Road, Widemarsh Street.
2. Belmont Road, Bewell Street, Burcott Road, Broomy Hill, Commercial Road, Delacey Street, Guildford Street, Grandstand Road, Park Street, Stanhope Street, St. Owen Street.
1. Bryngwyn Terrace, Barr's Court Place, Blue School Street, Chandos Street, Cantilupe Street, Church Street, Church Road, Cotterell Street, Cornwall Street, Coningsby Street, Edgar Street, East Street, Eign Road, Gaol Street, Grenfell Road, Kyrle Street, Ledbury Road, Moor Street, Moorfield Place, Nelson Street, Newmarket Street, Newtown Road, Palace Yard, Plough Street, Perseverance Road, Portfields, Richmond Street, Ross Road, St. Martin Street, St. Nicholas Street, Victoria Street, Vaga Street, Union Street, West Street, Whitecross Street.

The 95 deaths occurred in 57 streets, and 60 deaths (nearly three quarters) occurred in 22 streets in the town.

In several of the streets referred to in the Annual Report for 1908, in which the greatest number of deaths had occurred, *e.g.*, Catherine Street, Millbrook Street, Wye Street, Bath Street and Friar Street, three or more deaths from other Tubercular disease have also occurred. The connection with insanitary surroundings however does not appear to be so marked as in the case of Phthisis, as in this latter disease 202 cases were associated with 77 streets, whilst in respect to other Tubercular disease, 95 cases were associated with 57 streets.

In the following instances more than one death in the same house had occurred from Tubercular disease :—

(1) In Highmore Street a death occurred in 1904 and also in 1907. There was no family connection.

(2) In Wye Street deaths occurred in 1904 and 1905. These are referred to later.

The list of houses in which deaths occurred from other Tuberculous disease has been compared with a similar list of houses in which deaths from Phthisis occurred during the years 1898-1907. Bearing in mind the fact that the duration of Phthisis is usually several years, it will be seen that there was a probable source of infection in the following cases from the consumptive person, who resided in the same house.

Name of Street.	Date of Death of Consump- tive Person.	Sex.	Age.	Date of Death from other Tubercular Disease.	Sex.	Age.	Relation- ship.
Wye Street	Feb., 1901	F.	37	May, 1900	M.	5yrs.	Mother
Millbrook Street	Nov., 1903	M.	42	Dec., 1900	F.	2yrs.	Father
				.. 1900	M.	9yrs.	do.
Barr's Court Place	May, 1903	F.	33	May, 1901	F.	23yrs.	Sister
Belmont Road	Jan., 1904	M.	48	July, 1903	M.	15mos.	Father
Rycland Street	Sept., 1903	F.	27	Aug., 1903	M.	11m. s.	Father
West Street	Nov., 1903	M.	12	Aug. 1904	F.	15yrs.	Brother
Burcott Road	Sept., 1906	M.	20	Dec., 1906	M.	5mos.	Father

In the following cases the Phthysical person lived in an adjoining house and the infection was probably caused through visits between the two houses.

Name of Street.	Date of Death of Consump- tive Person.	Sex.	Age.	Date of Death from other Tubercular Disease.	Sex.	Age.
Wye street	June, 1903	M.	27	Dec., 1904	F.	2 yrs.
.. . . .	July, 1904	M.	38	Jan., 1905	M.	5 mos.
Catherine Street	Sept., 1906	F.	36	Oct., 1906	M.	3 mos.
Park Street	Sept., 1899	M.	29	Feb., 1899	M.	8 mos.
(next house but one)						
Church Street ..	Sept., 1904	M.	35	March 1903	M.	13 mos.

In connection with Tuberculosis in children it is probable that in some cases the channel of infection is through the lung, although it is considered that infection through the intestine by tuberculous milk is more common.

ADMINISTRATIVE MEASURES AGAINST TUBERCULOSIS.

Early in the year a Memorandum issued by the Medical Officer to the Local Government Board dealing with the Administrative Measures against Tuberculosis was sent round to all Sanitary Authorities and Boards of Guardians. At the request of the Sanitary Committee I prepared a short account of this Memorandum, which is given on pages 63—68; I have left the description as far as possible in the words of the Author.

At a special meeting of the Sanitary Committee held on June 25th, 1909, this Memorandum was considered and also the following recommendations which I brought forward :—

RECOMMENDATIONS

- (1) General Measures, *e.g.*, distribution of hand-bills, etc.
- (2) Voluntary Notification to be sent on the ordinary infectious disease forms. The medical practitioner should write a note at the bottom of the printed form when he does not wish any action to be taken by the Health Department, and mark the notification "Private."
- (3) Bacteriological examination of sputum free of cost.
- (4) Disinfection of rooms and bedding.
- (5) Provision of spit-bottles to poor persons, where necessary.
- (6) Bacteriological examination of samples of milk and if necessary the application of the Tuberculin test to milch cows by a Veterinary Surgeon.
- (7) Provision of Sanatorium treatment for suitable cases.

All the suggestions with the exception of (6) and (7) were agreed to and were confirmed at a meeting of the Town Council held on July 6th.

The following measures have been carried out during the year in connection with notifications of and deaths from Consumption. In the case of every Poor-law person and also cases notified voluntarily where there was no objection, visits were paid by myself to the home and advice given in regard to isolation, disposal of sputum, disinfection, and other matters, and a card containing printed instructions was sent to the house. I have already referred to these cases. Visits were also paid in connection with a large number of deaths, and disinfection of the rooms and bedding was offered in the case of every death.

The following is a copy of the printed card which was sent in the case of persons affected with the disease.

CITY OF HEREFORD. PREVENTION OF CONSUMPTION.

Consumption is a preventable disease from which many persons recover. It is not inherited, but like many other infectious diseases, is contracted. Rooms badly ventilated, dark, dirty, or damp, insufficient food, intemperance, certain occupations, and other factors which lower the resistance of the body, predispose to the disease.

MEANS OF SPREAD.—Consumption has been proved to be an infectious disease. It is usually spread from one person to another by means of the sputum which is coughed up by a Consumptive person; this contains the germs of the disease, and on becoming dry is readily inhaled by healthy persons in the form of dust. Sometimes the disease is conveyed by milk and occasionally by meat. All milk should be boiled before use.

PRECAUTIONS IN REGARD TO SPITTING, &c.—A Consumptive person should never spit on the pavement or on the floor of a house, public-house, public building, railway carriage, or other public conveyance. When indoors they should spit on rags or paper which should be burnt immediately, or into a spit-cup containing disinfectant, the contents of which should be afterwards emptied down the drain or w.c. and the vessel scalded.

When out of doors a pocket spit bottle containing a little disinfectant should be used, and the contents burnt or otherwise destroyed on returning home, and the vessel scalded.

A person may be Consumptive without knowing it; on this account no one can spit at random without possible danger to others.

The following Bye-law is in force in the City of Hereford in regard to spitting, and any person offending against the same is liable to a penalty:—

“ No person shall spit on the floor, side, or wall of any public waiting room or place of public entertainment, whether admission be obtained by payment or not.”

A mother affected with the disease should not suckle her baby.

During coughing a handkerchief should be held in front of the mouth; paper handkerchiefs are useful for this purpose, as they can be burnt after use.

ISOLATION.—Persons affected with the disease should always sleep alone, and, if possible, in a separate bedroom.

Children suffering from chronic cough should not be allowed to attend school, unless certified by a Doctor not to be suffering from Consumption.

SUNLIGHT AND FRESH AIR.—Plenty of fresh air and sunlight are absolutely essential; windows should be freely opened in living-rooms and bedrooms, and care taken that the chimney is not blocked up. If the clothing and bedding are sufficient no harm from cold need be feared.

All crowded, over-heated rooms, especially public halls, theatres, public houses, etc., should be avoided by Consumptive persons.

CLEANLINESS.—Rooms and furniture should be frequently cleansed.

Floors should be brushed daily, tea-leaves or damped saw-dust being first sprinkled over the floor, and windows opened. Furniture and all wood-work should be dusted with a damp cloth.

DISINFECTION.—Rooms will be disinfected by the Health Department on request every few months. Disinfectants can be obtained, free of charge, on making application at the Health Office, Town Hall.

In case of removal or death, notice should be given at the Health Office, when disinfection of rooms and bedding will be carried out free of charge.

J. W. MILLER, M.D., D.P.H.,

Town Hall, Hereford.

Medical Officer of Health.

In several instances the instructions in regard to disposal of sputum, etc., were given by the doctor in attendance on the case.

Printed cards issued by the "National Association for the Prevention of Consumption and other forms of Tuberculosis" were sent round to all factories and workshops and also each elementary school in the town, as well as to licensed refreshment houses. In this card attention is drawn to the danger of spitting and the value of sunlight, cleanliness and fresh air is pointed out. It is suggested that windows should be freely opened in work-rooms and dwelling-houses by night and day, and that on no occasion should the chimney be blocked up.

A glazed card with red lettering, issued by the same Association, was also sent round to each licensed Victualler in the town with a request to hang the card up in the Bar or other public room. The instructions were as follows:—

"To aid in the Prevention of Consumption, and in their own interests, all persons are earnestly requested not to spit on the floor of any vehicle, railway station, or other public resort."

A letter was sent to the Secretary of the Hereford City and County Licensed Victuallers' Association suggesting that proper spittoons should be provided in bars and smoke-rooms, and that damp sawdust should be sprinkled over floors before and windows should be opened during sweeping. Particulars were also given in regard to the strength of disinfectant which might be usefully added to the water before sprinkling or washing the floors.

Two thousand cards were also distributed from house to house in various parts of the town containing recommendations in regard to spitting, etc. In these cards it was pointed out that the food should be simple, indulgence in alcoholic liquors should be avoided, and regular hours for food and rest kept. Persons were also advised to avoid getting their clothes wet where possible and not to remain in wet clothes or boots.

The above cards will be recirculated from time to time, and it is hoped that the general information in connection with Consumption which has been circulated will be of service to the public.

The Bye-law in regard to spitting in force in the City might be extended to apply to the prohibition of spitting either on the pavement, or on the floor of any public room. The New Oaths Act which does away with kissing of the Book will also prove useful from a health point of view.

NOTIFICATION.

POOR LAW.—On January 1st, 1909, “the Public Health (Tuberculosis) Regulations, 1908,” came into force, and provision is now made for the Notification of all Poor-law cases of Consumption. The following are the requirements :—

Article V.—A district medical officer within the period of 48 hours after his first recognition of the symptoms of Pulmonary Tuberculosis in the case of a poor person upon whom he is in medical attendance (according to his agreement with a Board of Guardians) shall sign the notification form according to the directions set forth and send it to the Medical Officer of Health for the area in which the residence of the poor person is situate.

Article VI.—The Superintending Officer of a Poor-law Institution within the period of 48 hours after the departure from the Poor-law institution of a poor person who has been an inmate of the institution, and in relation to whose case the medical officer of such institution has already notified the Medical Officer of Health, must notify to the latter the actual or intended destination of the poor person.

Article VII.—A relieving officer within the period of 48 hours after he has obtained accurate information respecting a change of residence (other than by a change of residence by admission to a Poor-law institution) by a poor person in relation to whose case the District Medical Officer has already notified the Medical Officer of Health, must also notify the change of address.

Article IX.—(1) It is stated in this Article that in the case of the poor person notified there must be no restriction, prohibition, or disability affecting his occupation, means of livelihood or residence, on the ground of his suffering from Pulmonary Tuberculosis.

(2) The Medical Officer of Health may

(i.) Take all such measures or do all such things as are authorised in any case of infectious disease in regard to the destruction and disinfection of infected articles, or the cleansing or disinfecting of premises.

(ii.) Take all such measures as are appropriate and necessary for the safe disposal or destruction of infectious material as a result of Pulmonary Tuberculosis.

(iii.) Afford or supply all such assistance, facilities, or articles, as will obviate, or diminish the risk of infection arising from the conditions affecting the use or occupation of any room used or occupied by the poor person as a sleeping apartment.

(iv.) Furnish for the use of the poor person, on loan, or otherwise, any appliance, apparatus, or utensil which will be of assistance for the purpose of any precautions against the spread of infection.

(3) A Local Authority, on the advice of their Medical Officer of Health, may provide or distribute in the form of placards, hand-bills, or leaflets, suitable summaries of information and instructions respecting Pulmonary Tuberculosis, and the precautions to be taken against the spread of infection from the disease.

VOLUNTARY NOTIFICATION.—These are sent on the ordinary notification form for infectious disease and should the medical practitioner in attendance on the case not desire any action taken by the Health Department, he is requested to state this at the bottom of the form and to mark the notification “Private.”

PROVISION OF SANATORIUM TREATMENT FOR SUITABLE CASES.

At the special meeting of the Sanitary Committee held in June, 1 expressed the opinion that the treatment of early cases of Consumption could best be carried out in a County Sanatorium.

It has recently been suggested that the Small-pox Hospital might be utilised for early cases of the disease, but I consider the Hospital unsuitable on the following grounds :—

- (1) Cost of Administration.
- (2) Unsuitability of the site, the soil being clay.
- (3) Inconvenience which would be caused in the case of an outbreak of small-pox.

At the same time it was suggested that there should be co-operation with the County Council whereby Sanatorium treatment might be provided on a suitable site (of which there are several in the County) and by such means the cost of Administration and up-keep would be considerably reduced.

The following recommendation made by the Sanitary Committee to the Council at a meeting held on 1st February, 1910, was approved :—

“ **USE OF SMALL-POX HOSPITAL FOR CASES OF CONSUMPTION.**—The Committee have had under their consideration the resolution passed at the last meeting of the Council requesting the Committee to consider and report whether the Isolation Hospital situate nearest to Mordiford Road can be made available for incipient cases of Tuberculosis. The Committee do not consider such hospital suitable for the reception of incipient cases of Tuberculosis, and recommend the Council to invite the co-operation of the County Council in the provision of a Sanatorium for Consumptives.”

The question of Sanatorium treatment for Consumptives has recently been brought to the notice of the County Council by Dr. Gold, the County Medical Officer, and I hope that by means of co-operation between the two Councils such treatment, which is urgently needed, will shortly be provided.

A palatial building is not required, and all that is necessary is a house and a number of shelters which can be provided at a reasonable cost. The situation should be elevated, the soil dry, and the building sheltered by trees from cold winds.

Ample accommodation is provided for lunatics, who in some cases spend a large portion of their life in institutions, and surely some treatment might be provided during a few months for early cases of Consumption. The majority of Consumptives if taken at an early stage improve under Sanatorium treatment, and permanent cures may be effected.

Persons affected with the disease are able in most cases to follow their employment for some months, and in some cases for several years, and during this time they are a source of danger to their fellow workers ; a time comes when work is no longer able to be performed, and in the case of the working classes this usually means removal to a house at a lower rent, where the rooms are smaller and less food is taken at a time when good nourishment is necessary. These cases may survive even under such conditions for some time ; a good many find their way into the work-house ; some are treated in the General Hospital for a time, while others drag on a miserable existence at home as best they can.

TREATMENT OF ADVANCED CASES

There is no special arrangement for the treatment of advanced cases of Consumption in the Workhouse in this town. Some arrangement should be made and a special ward for the medical treatment and nursing of such patients might be provided with advantage ; such arrangements have been made in a good many instances in other parts of the country, and have proved of great use in preventing the spread of the disease.

LOCAL GOVERNMENT BOARD MEMORANDUM ON ADMINISTRATIVE MEASURES AGAINST TUBERCULOSIS.

1. GENERAL SCOPE OF THE ORDER.—The Order deals only with patients under the care of the Poor-law Medical Officer at home or in Poor-law Institutions, but attention is drawn to the fact that such patients are often only temporarily within the scope of Poor-law administration, and that problems to be faced are similar in regard to other persons. In certain towns compulsory notification is in force, and in a good many urban and rural districts voluntary notification has been adopted; the Board has always advised the payment of reasonable fees for voluntary notification of cases of consumption to the Medical Officer of Health.

2. CHARACTERISTICS OF TUBERCULOSIS.—Tuberculosis is an infectious disease, infection being conveyed by Tubercle Bacilli. Development is aided by deficient nutrition and by other conditions unfavourable to health, by residence in insanitary houses (occupation, intemperance, etc.), but the indispensable element is the Tubercle Bacillus. The disease can be prevented by staying infection, and on this account it is important that a bacteriological diagnosis should be made as early as possible.

In the Memorandum, infection from the human being is alone considered, as this is chiefly responsible for the causation of pulmonary tuberculosis. The tubercle bacillus in milk can be destroyed by boiling.

Tuberculosis is not only preventable, but, if taken at an early stage, can be cured. It is important not only that the infection should be diminished, but also that the resistance should be increased.

Degree of Infectiousness.—There are certain points of difference from other infectious diseases. Infection is through one channel only—viz., the lung, through expectoration or cough spray.

The infection can be controlled by the patient with very little trouble. Constant isolation is necessary in the case of other acute infectious diseases, but in regard to Phthisis, against the limited channels of transmission must be set its protracted duration. It may be infectious for months and even years, instead of only for a few weeks. A consumptive discharges Tubercle Bacilli in the expectoration only at intervals, and in most cases a short exposure is not sufficient to cause the disease in a healthy person. Under these circumstances, it is important to inculcate a more exact knowledge of the disease.

3. EDUCATIONAL MEASURES.—Tuberculosis is a disease of ignorance, and among the most valuable results which follow treatment and relief by home visits, dispensaries and sanatoria, is the hygienic training of the patient.

Educational measures include instruction of the members of the general community, those directly exposed to infection and those already infected. The teaching of hygiene in schools is important in this connection.

Pressure of public opinion should be brought to bear against indiscriminate spitting and against insanitary conditions, overcrowding, bad housing (intemperance), and other evils which lower the constitution and predispose to the disease.

Notification is especially valuable in connection with this disease, as it is important to obtain a precise knowledge of the various factors associated with the disease and what means are taken in regard to disposal of expectoration, isolation, etc. Such knowledge is necessary for the protection of relations and others. Not only nurses and relatives should possess a knowledge of preventive measures, but also those engaged in occupations in which tuberculosis is rife—*e.g.*, potmen, potters, cutlers, tin, lead or copper miners, bookbinders, printers, hairdressers, etc. Although cards or printed instructions are valuable, personal explanation by health visitors or others, when intelligently carried out, is much more efficacious.

The disease being of protracted duration, isolation of the patient during the whole course of the disease is impracticable. Instruction is therefore all the more necessary, and the ideal to be aimed at is to render inoperative the power of infectivity, wherever the patient lives and works. The most effective method, as regards the patient, is the temporary residence in a sanatorium, whereby the habits of life there inculcated can be afterwards maintained at home by constant watchfulness and care under a private practitioner or through visits by health visitors or nurses.

4. EARLY DIAGNOSIS.—Early diagnosis is important as a means of prevention. Although the disease can be diagnosed before expectoration is present if the patient is examined with great care, yet the detection of the Tubercle Bacilli in the sputum is one of the most successful means of diagnosing the disease in its early stages.

Medical inspection of school children should bring to light cases of the disease at an early stage. At present, in a large number of cases, the disease is not detected or does not come under treatment until well advanced. Such cases spread the disease largely and are constant sources of danger to others, especially those associated with them in the same employment.

It is important that precautionary measures should be commenced at an early stage of the disease. Visits following notification sometimes lead to early diagnosis of previously unrecognised cases in the same household. Reference is here made to Tuberculous Dispensaries, and the difficulty of poor persons obtaining outpatient letters or tickets is pointed out.

5. THE POSITION OF MEDICAL PRACTITIONERS IN RELATION TO PREVENTIVE MEASURES.—When the disease is recognised, it is suggested that the doctor should acquaint the patient in all cases, as the majority of cases recover when recognised early, and in advanced cases the life can be prolonged by efficient treatment; there can be no hesitation in doing this.

It is pointed out that although the medical attendant can give personal instructions, at the same time, under the usual conditions of private practice, assistance from the Medical Officer of Health is often useful.

6. ADMINISTRATIVE CONTROL.—Incidentally, some of the measures for administrative control have already been mentioned—*e.g.*, educational measures and measures to secure early diagnosis.

Information which is now furnished to the Medical Officer of Health in regard to cases of Consumption among the poor, enables sanitary defects to be promptly remedied and other administrative measures of control introduced.

Other means are the investigation of cases of the disease, advice being given, disinfection and cleansing recommended, and spit-bottles supplied to the poor; also provision of sanatoria and, in addition, hospitals for advanced cases of the disease.

Measures for preventing infection equally prevent the patient from receiving further doses of infective material, and he especially will gain by their success.

7. PROCEDURE.—First of all, notification. This is followed by certain enquiries by the Medical Officer of Health or a trained assistant. By tact and discretion there need seldom be any difficulty in obtaining all the information which is needed and in

giving all the counsel that the patient and his family need ; this must not interfere with advice already given by the doctor in attendance. It is important that the patient should not be prevented from earning his living.

In some cases it may be advisable to enquire into the conditions under which the patient works.

In the recent Memorandum issued by the Board in the case of Poor-law patients, it is provided that information shall be furnished of change of residence, and the premises can be cleansed and disinfected before their occupation by new tenants.

8. ACTION AGAINST INFECTION.—The chief means for preventing infection is prevention of indiscriminate spitting. Sanitary authorities can make bye-laws prohibiting spitting in public carriages, halls, waiting rooms, or places of public entertainment. The patient should be instructed to cover the mouth when coughing, also as to the method of disposal of expectoration and the use of pocket spit-bottles.

Frequently such precautions have not been adopted by the patient in the past, and disinfection and cleansing of bedrooms will be necessary. Mention is again made of the importance of the short training of patients in a sanatorium.

When the patient is in an advanced stage the cough is violent and expectoration frequent and excessive, and under such conditions in the homes of the poor the avoidance of repeated infection is difficult. At this stage treatment in an institution is very useful.

Under the Board's recent regulations, the Sanitary Authority, provided there is no restriction or disability of the patient in his employment, can disinfect or cleanse infected articles or premises ; as in the case of other infectious diseases they can also take means for the safe disposal or destruction of infective material discharged by consumptive patients and for the proper use of sleeping apartments. The Sanitary Authority can also provide spit-bottles, etc. If the patient should continue to be treated at home, visits will be paid by the Health Officers and others, and the patient will be encouraged to carry out the necessary instructions, and to make regular visits to his doctor.

9. HOME TRAINING AND SUPERVISION.—If the patient is at home during the whole course of the illness it is more difficult to secure the continual adoption of the necessary measures already referred to. A short course of treatment in a Sanatorium is very beneficial. As a rule advanced cases are preferably trained in an institution.

If the patient, although poor, is not a Poor-law patient, but attends at intervals as an out-patient at a hospital or dispensary, the visits he receives will advantageously be more frequent than when the patient is under the care of a private practitioner, and may be made helpful in bringing him into relationship with the agencies for aid that his circumstances indicate are needed.

10. TUBERCULOUS DISPENSARY.—If a dispensary already exists, arrangements should be made for nurses attending the same to visit patients at home and enter particulars on forms which are afterwards seen by the dispensary physician and Medical Officer of Health. In some districts these visitors will be the health visitors of the Sanitary Authority. When local circumstances do not permit of the formation of a Tuberculous Dispensary, similar work can be carried out in connection with other dispensaries and out-patients' departments of hospitals, voluntary or official health visitors being employed.

It is important that a doctor should have before him all the circumstances relating to the patient, as these will aid him in giving advice.

11. SANATORIUM.—Home treatment often fails in preventing infection and in the cure of the patient, hence the importance of Sanatorium treatment.

In actual experience a large proportion of poor patients cannot be cured without treatment, so protracted as to be outside the range of practical administration. Many patients either recover, or without completely recovering continue to be able to work indefinitely, even when protracted sanatorium treatment cannot be secured. Their working life can be extended, and their capacity to spread infection can be stopped by an occasional stay in a sanatorium of limited duration, say for a month. The patient does not lose his place by a short stay, and is willing to go for this period. When a patient enters a sanatorium, his dwelling is disinfected, and he himself is trained in methods of disposal of sputum and general hygiene in a manner impossible at home, and on his return home is not so likely to be a source of infection.

12. INSTITUTIONAL TREATMENT OF ADVANCED CASES.—A certain proportion of cases gradually decline in spite of every effort on their behalf. The number will no doubt diminish when the public realise the importance of early and accurate medical treatment of cases of failing health, especially if accompanied by a cough. Even when measures are not adopted early in the disease, infection can be limited by the various preventive measures already referred to.

In the homes of the poor, suitable bedroom accommodation cannot be provided for advanced cases, and the wife or other relative in charge is overworked, and this renders them more susceptible to the disease. It is, therefore, essential that a large proportion of advanced cases should receive medical attention and nursing in an institution.

Patients are frequently treated in workhouse infirmaries, many of them under excellent conditions, and probably all of them under conditions less likely to cause the spread of infection than in dwellings commonly occupied by the very poor and destitute.

Arrangements for treating advanced cases in institutions need to be extended, and the hospital treatment of the bedridden consumptive in the ideal state will be made so popular that domestic infection will become much less frequent than at present.

CANCER.

Including other malignant disease, there were 29 deaths during the year of 11 males and 18 females. Thirteen deaths occurred in Ledbury Ward, 11 in Leominster and 5 in Monmouth Wards. Four deaths occurred in the Workhouse, 1 in the General Hospital and 1 in Burghill Asylum. The ages at death were as follows :—

35-45	45-55	55-65	65-75	75-85	85 & up.
2	7	7	7	5	1

The majority of the deaths occurred over the age of 45 years.

The death-rate per 1,000 for males was 1.05, females 1.48 and both sexes 1.28. The latter rate for the years 1899-08 was .99. In the following table the rates for Hereford City and England and Wales are given for the years 1903-07 and 1908.

<i>Period.</i>	<i>Sexes.</i>	<i>Hereford City.</i>	<i>England & Wales.</i>
1903-07	Both .....	.90	.89
1908	Males .....	.77	.81
	Females	1.08	1.02
	Both .....	.93	.92

The rates for the City for both sexes were higher than similar rates for England and Wales ; for the year 1908 the rate for males was lower but that for females was higher than similar rates for England and Wales.

The parts affected are shown in the following table :—

<i>Part.</i>	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>
Breast	0	3	3
Reproductive organs ..	0	4	4
Oesophagus	0	1	1
Stomach	4	2	6
Intestines	1	3	4
Pancreas	0	1	1
Kidney	0	1	1
Jaw	3	0	3
Tongue	1	0	1
Other	1	2	3
Total	10	17	27

A male died from sarcoma of the pelvis and a female from sarcoma of the muscles of the leg, with secondary lung affection.

RESPIRATORY DISEASE.

During the year there were 21 deaths from Bronchitis, 18 from Pneumonia and 4 from Asthma. The respiratory rate was 1.91, compared with 2.26 for the previous 10 years, and 1.61 for 1908.

Bronchitis caused 11 deaths among males and 10 among females ; Pneumonia, 4 among males and 14 among females.

The ages at death were as follows :—

	0-1		1-5		5-15		15-25		25-35		35-45	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Bronchitis	1	2	—	1	—	—	—	—	1	—	—	—
Pneumonia	—	3	2	2	—	1	—	1	—	—	1	1

	45-55		55-65		65-75		75-85		85 & over	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Bronchitis	1	—	—	—	1	4	3	3	—	—
Pneumonia	—	2	1	1	—	1	—	1	—	1

Of the 4 deaths from Asthma, 2 were of males, aged 63 and 72 years, and 2 of females, aged 55 and 66 years.

The majority of deaths from Bronchitis occurred among old people, and three-quarters of the deaths occurred among children under the age of 5 years and persons over the age of 65 years. There were 3 deaths under the age of one year, at a time when infants are particularly susceptible to chest complaints.

In regard to Pneumonia 7 deaths occurred under the age of 5 years and 6 from the ages of 25 to 65 years. This accounts for three-quarters of the deaths.

The following table shows the rates for the City and England and Wales for the years 1903-07 at all ages :—

	<i>Hereford.</i>	<i>England & Wales.</i>
Bronchitis	1.06	1.47
Pneumonia . . . . .	.97	1.27

The rates for the city compare favourably with those for England and Wales. In the following table are shown the rates for all respiratory disease since the year 1876:—

<i>Period.</i>	<i>Number of deaths.</i>	<i>Rate per 1,000.</i>
1876-1880	321	1.6
1881-1885	280	1.4
1886-1890	328	1.6
1891-1895	393	1.9
1896-1900	246	1.16
1901-1905	265	1.2
1906	36	1.6
1907	51	2.2
1908	36	1.61

The Respiratory rate has shown a decrease since 1896; the higher rate for the year 1907 would be partly accounted for by the increase in the number of deaths from Measles.

ALCOHOLISM.

No deaths were attributed to Alcoholism during the year, but a male 40 years died from cirrhosis of the liver, a disease which is usually caused by alcohol.

OTHER CAUSES OF DEATH.

HEART DISEASE.—Forty-four deaths were attributed to this disease, of which 5 occurred between the ages of 65 and 75 years, 14 between 75 and 85 years, and one male and two females died at the ages of 86, 89 and 92 respectively. Probably more than one-third of the deaths from this disease were the result of senile decay.

OLD AGE.—Of the 35 deaths which occurred from this cause, 20 were at ages 75 to 85, and 10 persons died at ages 85 and upwards. Two males and a female attained the age of 90 years, and a female the age of 93 years.

COWSHEDS, DAIRIES AND MILKSHOPS.

There are the names of 13 persons on the Register who keep dairies, 22 who have cowsheds, and 23 milkshops or milkstores. In addition 46 purveyors of milk are registered, of whom 19 bring in milk from outside the city.

103 visits were paid to cowsheds, milkshops and dairies during the year. The majority of the cowsheds were kept clean and only six notices were served for breaches of the regulations.

Alterations have been carried out in the cowsheds of two farms, in one case additional means of lighting and ventilation have been provided and a concrete floor and channel in one of the cowsheds. At another farm the front of the cowshed has been rebuilt in brickwork, and additional lighting and ventilation provided; a concrete floor and channel have also been laid and new feeding troughs provided. Work was also in progress at a third farm at the latter end of 1909, and at the time of writing new concrete floors and channels had been laid in connection with several of the cowsheds.

In certain cases there is room for improvement in regard to the cleanliness of the cowsheds and also the cows. Manure should be deposited as far from the cowsheds as possible and should not be stored for long periods.

MILKSHOPS, ETC.—Milk was sold in 7 milk stores and at the following :—Grocers' shops, 8; confectioner's and grocer's, 1; greengrocer's, 1; private houses, 2; dining rooms, 2; and hotels, 2. At the shops a small quantity was usually kept on the counter for the convenience of customers. At the grocers' shops other small articles were also sold, and as in most cases the shops were small, these could not be considered proper places for keeping the milk during the hot weather. In the majority of cases the vessels were clean and means were taken for properly scalding them; in many cases muslin covers on frames were spread over the vessels to keep the flies off. The town water supply was in general use, and the drainage was on the whole good.

Leaflets on 'Clean Milk' were sent round to every farmer and dairyman supplying milk. In this leaflet much useful advice was given in regard to the importance of cleanliness of the cowsheds, cows and milker. It was recommended that the udders if dirty should be washed and that clean overalls should be worn by the milkers and the hands washed before milking. It was suggested that milk pails and cans should be properly cleansed by steam and boiling water and that the milk should be stored in a clean dairy and not in the cowsheds.

Leaflets were also sent round to retail milk-sellers. It was pointed out in this leaflet that the following were the principal factors in producing contamination of milk, as far as the retailer was concerned :—

- (1) Milk-vessels.
- (2) Air, owing to milk being uncovered.
- (3) Those handling the milk.
- (4) Dirty premises.

Directions were given in regard to the proper cleansing of all milk-vessels and to the provision of suitable covers for the vessels in order to keep out dust and flies. Persons handling the milk were advised to keep their hands clean and to wear clean sleeves, which could be washed, in order to prevent pollution in the process of measuring out the milk. It was suggested that the premises should be well ventilated and kept as clean and free from dust as possible; that any goods tending to produce dust or which were likely to impart an odour to the milk should not be kept in the same premises, and that the sweeping of floors should be replaced by washing, and dry dusting avoided.

The importance of cooling was also referred to, the object being to keep the milk at a temperature below 50 deg. F. if possible.

The information in the leaflets is based on the report in respect to the contamination of milk which was recently issued by a joint committee, composed of the West Riding County Council and other Public Bodies in Yorkshire. The experiments and bacteriological analyses were carried out for the committee by Dr. Orr.

TUBERCULOSIS IN COWS.

The Health Committee of the Birmingham Corporation in 1908 sent a deputation consisting of Alderman Dexter, Dr. Robertson, Medical Officer of Health, and Mr. Malcolm, Veterinary Superintendent to the Corporation, to the continent to study the 'milk question.' The following information is from a Report which the Medical Officer of Health kindly sent me, as well as from papers published since.

Two different methods are adopted on the continent for ridding herds of Tuberculosis, those of Professors Bang and Ostertag.

I. BANG'S METHOD.—This method has been in operation in Denmark for about 6 years. It consists of the effective segregation of the diseased from the healthy cattle.

To find out which animals are diseased, all are tested with tuberculin. Reactors are not slaughtered except in the case of cows with tuberculosis of the udder or manifest wasters, and in these cases partial compensation is provided by the State.

Special precautions are taken in order that no infected animal should be overlooked, all non-reactors and calves in the herds being tested in the spring and summer. It is claimed by means of this half-yearly test that any recently infected animal which had escaped detection on the first occasion would be detected at the second test, before it became a source of infection to others.

The reactors or infected cattle are now kept effectively isolated from the non-reactors or free, by keeping them in separate farms and failing this in separate sheds, as far apart as possible. Where neither of these means are available isolation is provided by dividing the shed into two parts, each with its own door; the one part being separated from the other by a partition extending from the floor to the ceiling. A separate water-supply is provided and two sets of attendants are employed, or if this cannot be arranged, the healthy portion of the herd are attended to first; at pasture the infected and the free are also kept apart.

Particular attention is also paid to the rearing of the young. The calves are separated from the mothers at birth, and are fed upon either tubercle-free cows' milk or milk that has been sterilized.

In Denmark the calves are safe from infection by tubercle bacilli through the alimentary canal, as it is a State regulation that milk returned from butter factories must be raised to a temperature sufficiently high to kill the bacillus of tuberculosis.

Veterinary supervision and tuberculin are provided free of cost by the Government, the only condition being that the farmers should comply with the State regulations in regard to isolation and disinfection. Since Bang introduced his system into Denmark between 600 and 700 herds of dairy cattle have been freed from tuberculosis. The method was introduced at Vordingborg in 1895; at this time the herd numbered 448, of which 350 reacted and 98 were free, in other words 78% were diseased. In 1908 the herd increased to 784, and only 19 reacted, *i.e.* 2.4%. The reduction was effected at little cost to the owner, although there was some expense in maintaining separate herds. On the other hand there was the gain from the absence of wasters.

II. OSTERTAG'S METHOD.—This method, which has been named after the introducer, has been employed in North Germany. The object is to lessen bovine tuberculosis by the process of eliminating all infectious cases, and is based on the fact that all tuberculosis which arises after birth is produced by infection from previous infectious cases of the disease. The infectious cases are those with open lesions in organs communicating with the exterior, such as the respiratory organs, alimentary tract and the udder

and urino-genital organs. In the majority of cases, especially in the early stages, the disease is situated in organs from which infection cannot be given off; this is an important point. At the same time, although all infectious cases are not at first dangerous, there is no certainty when a non-dangerous case may develop into a dangerous one.

Reliance in Ostertag's method is placed on conjoint veterinary inspection and bacteriological investigation. The herd is examined by a veterinary surgeon annually, and at other times when occasion requires. As a rule the recognition of dangerous animals can be made by clinical examination only. In doubtful cases bacteriological methods are used, samples of milk, sputum or other excretions being sent to a laboratory for analysis. The owner is obliged to isolate an animal with open tuberculosis, and is advised to slaughter immediately; the premises must also be disinfected.

The farmers generally are recommended to keep all calves apart from their mothers and feed them on boiled milk.

The amount of success in connection with the above method depends on the degree of accuracy in recognising cases as soon as they arise. In Germany there is an arrangement between the Department of Agriculture and the Local Agricultural Societies in the provinces where the method is in operation. These Societies pay a pre-arranged small subscription graduated in proportion to the number of stock examined by a veterinary surgeon, either annually or at such other times that may be necessary.

In March of last year a report to the Local Government Board was published by Dr. Eastwood on American methods for the Control and Improvement of the Milk Supply. Dr. Eastwood was one of the expert pathologists in the employment of the Royal Commission on Tuberculosis, and visited New York, Massachusetts and other States in America. Amongst his conclusions were the following :—

(1) That it is useless to attempt the formulation of any general plan for the complete eradication of bovine tuberculosis throughout this country within a limited period.

(2) It is imperative, in the interests of agriculture, that dairy cows with advanced or generalised tuberculosis, or with tuberculosis of the udder, should be destroyed.

(3) The public must be prepared to meet all the cost of adequately inspecting the condition of dairy cattle.

(4) It is essential in the interests of agriculture that compensation should not be paid out of the public funds for slaughtered cattle showing advanced or generalised tuberculosis, or tuberculosis of the udder.

(5) The testing of entire herds with tuberculin should be encouraged, and for this purpose the assistance of public money is requisite and desirable.

(6) Public money spent on re-testing with a view to establishing thoroughly the soundness of herds giving on the first test either no reactions or only a small percentage of reactions, would be money well spent.

(7) Reacting animals possessing a market value might under special circumstances be taken over by the community at a price exceeding their market value: but with this exception compensation out of the public funds does not appear to be justifiable.

(8) Local Authorities by establishing and maintaining clean herds for the supply of public institutions, would provide a valuable means of education the farmer.

The Birmingham observers appear to be of the same opinion as Dr. Eastwood on many points. It is considered by them that tuberculosis among cattle can be lessened by eliminating all recognised open or infectious cases on Ostertag's lines, and that an efficient preventive veterinary service should be established to meet the requirements of such a scheme, which should be obligatory and applicable to all herds. The measure providing for compulsory slaughter of infectious cows should be supplemented by provision on Bang's lines for separating the infected from the free. In regard to the general application of Bang's method, the difficulties would be too great, as the diagnosis of the infected cows depends on the tuberculin test and the cost incurred by universal testing and the provision of suitable means of segregation would be prohibitive; at the same time it is considered that there is no reason why farmers themselves should neglect a measure so efficacious when properly applied. The central and local authorities should aid by providing the services of a veterinary surgeon and tuberculin free of cost on certain conditions to all who desire it.

It has been suggested by Dr. Robertson, the Medical Officer of Health for Birmingham, that in towns a commencement should be made by the provision of tubercle free milk to Hospitals. In Birmingham the cows in connection with 11 farms are being dealt with on Bang's lines, and the herds on 4 farms are already tubercle free and the others in process of being freed.

The amount of tuberculosis amongst Herefordshire cattle is considered to be low. This is probably largely the effect of their general out-door life.

Geddes, who in 1901-02 was sent by the American Government to examine by means of tuberculin some of the chief breeds of British dairy cattle, rejected only 17 out of 428 Hereford cattle tested, *i.e.*, 3.97%.*

During the year a Tuberculosis Order was issued by the Board of Agriculture, and it was intended that this should be supplementary to legislative measures in connection with milk, which it was the intention of the Government to introduce; the Tuberculosis Order was afterwards withdrawn, as the Milk Bill was held over.

COMMON LODGING HOUSES.

There were four registered common lodging-houses in the city at the end of the year. The house, 22, Bewell Street, was burnt down on January 7th, 1909.

The following is a complete list of the houses at the end of year, with the number of lodgers in each house :—

<i>Date of Registration.</i>	<i>Situation.</i>	<i>No. of Lodgers</i>
Dec. 21, 1875 ..	7, Little Berrington Street ..	16
1889	Rear of 37, St. Owen Street	6
Nov. 11, 1889 ..	38, St. Owen Street	21
Dec. 15th, 1889 ..	39 and 41, St. Owen Street	20

The necessary linewashing as required by the Public Health Act has been carried out. The registration of 7, Little Berrington Street, was transferred to a new keeper. One application for registration was refused on account of the applicant not being a suitable person for the post.

The common lodging-house accommodation in the town is not good, and the present houses are unsuitable for the purpose.

There are several buildings in the town in the vicinity of the present houses which at a reasonable cost could be adapted for the purpose. It is important that the class of persons who

* Nineteenth Annual Report of the Bureau of Animal Industry, 1902.

habitually reside in such places should not be distributed over the town, as it is by tramps and such persons that small-pox is brought to a town and it is important to have these persons under observation.

In the case of infectious disease, under Sect. 84 of the Public Health Act, 1875, the keeper of a common lodging-house is required to give notice to the Medical Officer of Health of any such disease in his house. I received in March an intimation in regard to a case of measles, a male aged 14 months, at back of 37, St. Owen Street. I visited the house and gave instructions in regard to isolation, etc., and the bedroom was disinfected after the death of the child on March 30th. No further cases occurred.

HOUSING.

The number of houses built in each Ward during the year 1909 was as follows :—

<i>Ledbury Ward.</i>	<i>Leominster Ward.</i>	<i>Monmouth Ward.</i>
7	51	13

The number of houses erected in the town since 1900 is shown in the accompanying table for which I am indebted to the City Surveyor.

Date.	New Houses for which Plans have been approved.	Other Buildings.	New Houses completed and inspected.	Other Buildings.
During the Year 1901	79	6	43	7
„ „ 1902	78	6	36	6
„ „ 1903	50	12	65	11
„ „ 1904	51	16	50	8
„ „ 1905	69	5	38	4
„ „ 1906	78	14	72	14
„ „ 1907	50	20	60	14
„ „ 1908	45	32	15	23
„ „ 1909	81	7	71	5

Now that 43 houses have been erected on the Barr's Court Estate, there should be no longer any scarcity of houses for the working classes.

HOUSING OF THE WORKING CLASSES ACTS, 1890 AND 1903.

During the year the remainder of the property comprised in the Bewell Street area, consisting of 21, 22, and 27-30, Bewell Street, 2-7, Bewell Court and 1, 3, 4 and 5 Weaver's Court, was demolished, and also 1 and 2, back of 23, Gaol Street, and a cottage at Huntington Court. Demolition orders which were served in connection with 1, 2 and 3, back of 24, Gaol Street, expired on Jan. 8th, 1910, and at the time of writing arrangements were being made for the demolition of these houses: 2, Weaver's Court, St. Owen Street, has been closed and is now used as a wash-house.

Pending the erection of 43 houses on the Barr's Court Estate, the attention of the Housing Committee was mainly directed to the carrying out of improvements and alterations which would render certain houses fit for habitation. Where it is considered possible to render a house fit, a specification is sent in every case by the City Surveyor informing the owner of the work necessary to be carried out.

In the following cases the houses were rendered fit for habitation after notice :—

No. 85, St. Owen Street and 1, Weaver's Court. Nos. 43, 44, 45 and 46, Catherine Street, were made into through houses with the four houses at the rear in Built's Court. The houses were renovated and drainage work carried out.

Nos. 2, 3 and 4, Catherine Street (work not yet completed).

Work was in progress at the end of the year (since completed) in connection with 180, 181, 182, Edgar Street, and 3, 4 and 5, Wall Street. No. 4, Wall Street, has been pulled down, thus leaving an open space, which has been divided into two portions for the use of the houses in Edgar Street and Wall Street respectively.

Windows facing on to the yard have been constructed in connection with the first floor bedrooms of 3 and 5, Wall Street, and the back bedroom (first floor) of 181, Edgar Street.

There is now through ventilation in connection with 181, Edgar Street, and cross ventilation on account of doors opening into the yard from 180 and 182, Edgar Street. The interiors of the houses have been cleansed, and all necessary repairs carried out; in addition the drains have been relaid and proper lavatory accommodation provided for the houses.

In regard to the following houses repairs were carried out, without notice :—

1, 2, 36 and 37, Monkmoor Street,
38, Gaol Street, and
1, back of 37, Gaol Street.

Further repairs under the Public Health Acts will be necessary in connection with the houses in Monkmoor Street.

Letters and specifications were sent to the owners of 10 houses in regard to necessary alterations, and these will shortly be carried out in connection with four of the houses.

A communication was also sent pointing out that four houses were unfit for habitation and not safe to live in.

In the following table is shown the work carried out since the formation of the Housing Committee in January, 1907.

There are still over 60 houses remaining to be dealt with, and additional houses are being added to the list from time to time.

WORK DONE UNDER THE HOUSING OF THE WORKING CLASSES ACTS, DURING 1907 AND 1908.

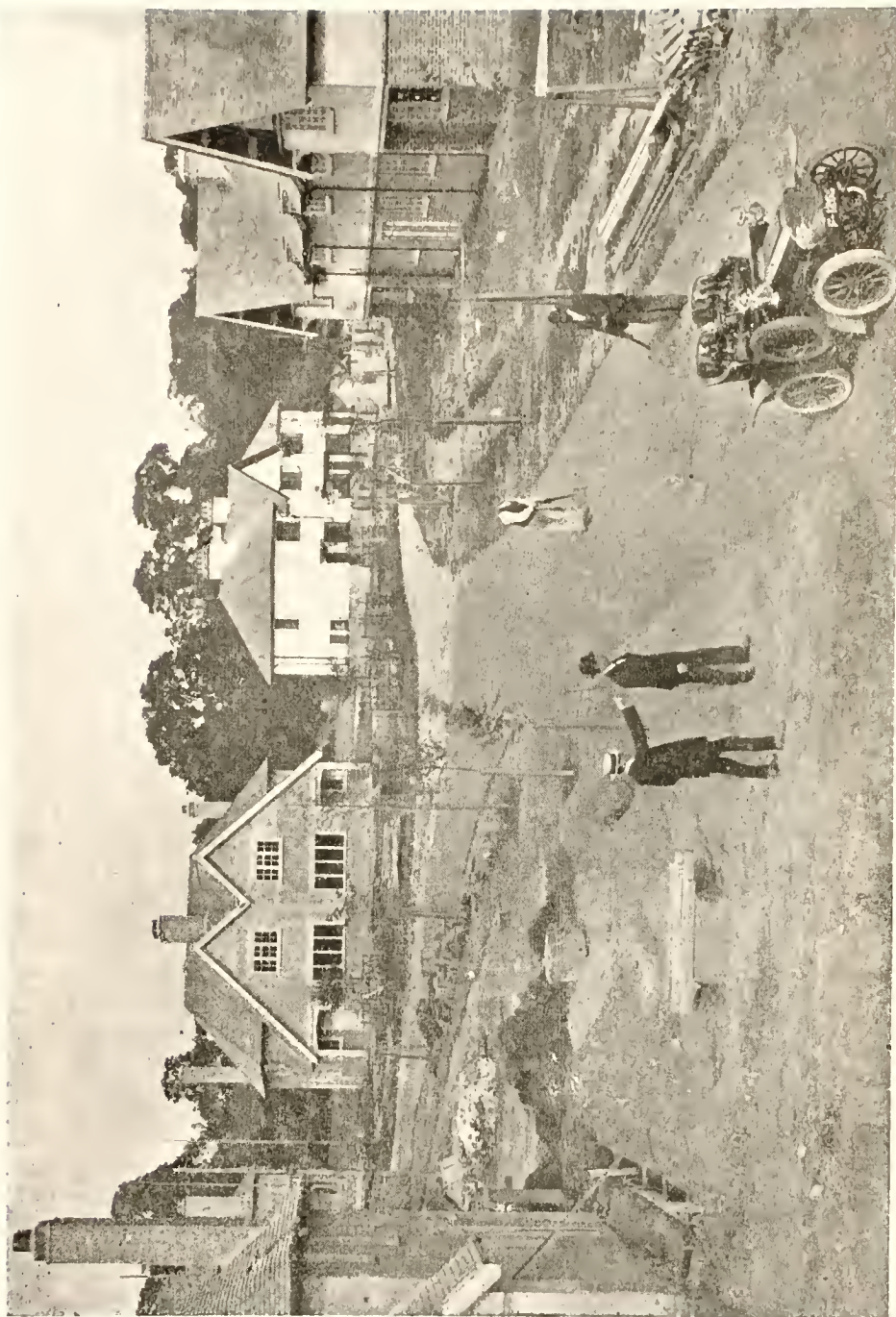
Period.	De- molished	Partly De- molished	In pro- cess of De- molition	De- molition Orders served	Orders to be served.	Houses closed	Closed and in use for other purposes	Altered after notice	Altered without notice	Total
1907-8	26	2	16	2	3	6	*5	7	29	96
1909	19	—	—	3	—	—	†1	13	6	42

* 2 Warehouses. 1 Petrol Store. 1 Warehouse and Stabling. 1 Joiner's Shop

† Now used as Washhouse.

THE GARDEN CITY.

In last year's Annual Report I referred to the purchase by the Town Council of the Barrs Court Estate in order to promote erection of houses in place of those demolished in the Bewell Street area and elsewhere, and thus to allow further action to be taken in the future in regard to other insanitary property, which could not be dealt with owing to the scarcity of working class houses in the town.



ENTRANCE TO GARDEN CITY.

The Estate, which covers over nine acres, was purchased by the Council from Sir Edward Hopton, and in finding the necessary capital for the land and the laying out of the roads, etc., the estimated cost of which was £2,300, the Council can claim to be the first in England which has co-operated in such a Housing Scheme.

The making of the roads and the laying out of the sewers has been carried out under the direction of Mr. J. Parker, City Surveyor, and in last year's report a plan was shown of the Estate indicating the roads already constructed and the probable directions in which future planning would be made.

A Society was formed early in the year called the "Hereford Co-operative Housing, Limited," as a result of the efforts of the Mayor (Councillor E. F. Bulmer) and of others interested in the Housing question in the City.

On January 19th, 1909, a public meeting was held in the Town Hall, at which an interesting Lecture was delivered on "Co-operative Housing" by Councillor Nettlefold, of Birmingham, the well-known authority on Housing problems. At this meeting large financial support was promised in connection with the scheme.

On March 18th, 1909, a Local Government Board enquiry was held by Mr. F. J. Willis in respect to the application of the Hereford Co-operative Housing, Limited, to lease a portion of the Estate referred to for the purpose of erecting thereon dwellings for persons of the working classes, the terms being such as to relieve the ratepayers of all cost. In the Local Government Board Order of 1908 sanction was given by the Board to the Town Council to purchase the Barrs Court Estate and other property, and if the Council could not themselves build they were permitted to arrange that other persons should undertake to do so, the stipulation being that a sufficient number of houses should be built to accommodate 40 persons before October 14th, 1909.

The sanction of the Board approving of the scheme of the Co-operative Society to build houses on the Estate was received on April 16th, after plans of the proposed houses had been submitted; and building operations were commenced in April. Forty-three houses had been completed by October 16th, on which date there was a formal opening of the Hereford Garden City. The Mayor was able to announce that the whole of the capital first promised, amounting to £6,500, had been paid by the shareholders.

Mr. Councillor E. F. Bulmer, who is Chairman of the Society, was the prime mover in the scheme, and it was owing largely to his energy that the Housing Society was formed and a large part of the scheme completed during his year of office as Mayor. At the time of writing another 23 houses were in process of erection, and permission has been given to the Society by the Council to erect altogether 100 houses on the Estate.

The 43 houses already erected provide accommodation for over 200 persons.

The Hereford Garden City follows on the plan of other cities of a similar character, the roads are designed upon continental lines, and on either side there is a strip of turf, 7ft. 6in. wide on which trees of various kinds have been planted; continuous with the turf and adjoining the houses are gravel footpaths 5 feet wide. The cottages are set back 15 feet from the edge of the footpath and there is thus a total width of 70 feet between houses on either side of the roadway.

An important part of the scheme is the irregular distribution of the houses, which is in pleasant contrast to the dull monotonous row of houses which is so common in our English towns. There is plenty of space around the cottages, and on no part of the Estate are there more than 12 houses to the acre.

The 43 houses are arranged in 5 blocks of 5, two blocks of 3 houses, and there are six blocks of semi-detached houses; 15 of the houses are let at a rental including rates of 4s. 9d. per week, 20 at rents between 4s. 9d. and 6s.; and 8 at 7s. 9d. It is intended to provide allotments on the Estate, and these will be available to those tenants who desire them, each tenant will therefore have the opportunity of growing vegetable produce in his own garden.

The houses are built of brick with cavities (where not cemented) and the walls of the upper storeys are covered with rough cast, the white appearance of which is in pleasant contrast to the red roofs of Broseley tiles. Each cottage contains two living-rooms and three bedrooms, and in some of the houses a scullery and a bath-room are also provided; in 8 houses the bath-room is upstairs, and in a number there is an iron bath in the scullery. The rooms are provided with casement windows, and in addition the part of the window above is hinged and made to open outwards.



PORTION OF GARDEN CITY.

The size of the rooms is as follows :—

5 blocks of 5 houses—		
front living room	—	13 feet by 12 feet.
kitchen		13 feet by 8ft. 6in.
front bedroom		13 feet by 9 feet
2nd	„	11 feet by 8 feet
3rd	„	7ft. 6in. by 7ft 6in.
2 blocks of 3 houses—		
front living room	—	12ft. 6in. by 12 feet
kitchen		12ft. 6in. by 8 feet.
front bedroom		12ft. 6in. by 9 feet.
2nd	„	11 feet by 8 feet.
3rd	„	8 feet by 7 feet
6 blocks of semi-detached houses—		
living room		12 feet by 12 feet
kitchen		12 feet by 12 feet
scullery		7 feet by 6 feet
front bedroom		12 feet by 12 feet
2nd	„	12 feet by 9 feet
3rd	„	10 feet by 9 feet

A furnace is provided in either the scullery or back living room for washing clothes, and the cooking range also provides the heat for the bath water. There is a larder with sufficient light and ventilation. There are no outbuildings at the backs of the houses ; accommodation for the w.c. and coal store are provided in the house, but access to the former is through an outside door.

When the trees have developed and the flowers are in bloom, the Estate will undoubtedly justify its title of the Garden City.

I am indebted to Mr. Parker, City Surveyor, for photographs of some of the houses.

HOUSING AND TOWN PLANNING.

On pages 85—90 I have given a short account of the Housing and Town Planning, etc., Act of 1909, which came into force on December 3rd, 1909.

HOUSING.—It is greatly to the credit of the Town Council of this City that so much has been carried out during the last few years voluntarily.

Under the new Act it will be compulsory on all District Councils to carry out within a limited time improvement schemes for “unhealthy areas” under Part I, H.W.C.A., 1890, or reconstruction schemes for such areas under Part. II. of the same Act.

Your Council have dealt with the St. Owen Street scheme and the Bewell Street area under Part. II. of the 1890 Act, and in addition a considerable amount of work has also been carried out under Part I. of the same Act.

The first part of Sect. 17 of the new Act, viz., that it is the duty of every Local Authority to have an inspection of their district made to ascertain whether there are any dwelling-houses unfit for habitation, has already been carried out and the bulk of the insanitary property in the town has already been represented to the Housing Committee.

Sect. 14, imposes a duty on the landlord of every house under a rental of £16 or under, not only to keep the house in repair, but also not to let the house unless it is reasonably fit for habitation. The Local Authority have power to close a house if it is not fit. During the latter part of last year, on hearing that a house which was unfit for habitation was empty, I wrote to the agent advising that the house should be kept closed. No alterations were carried out and the house was re-let a short time afterwards. Under Sect. 17, if it appears to the Local Authority on information given by the Medical Officer of Health or other officer, that a house is unfit for habitation and the house is not rendered fit, it is the duty of the Authority to close the house, and if nothing is done in connection with the house within three months, the Authority can order the demolition of it.

In the past, in order to obtain a closing order, it was necessary to make application at the magistrates' court, and in some instances, even when the action was quite justifiable, no order was granted. In future in this City the Town Council will be able to make the order.

Sect. 43 prohibits the erection of back-to-back houses.

PLANNING.—Under Part III. of the H.W.C.A., 1890, the Town Council has been fortunate in obtaining by voluntary purchase the Barr's Court Estate. This estate is pleasantly situated and within easy reach of the majority of the industrial businesses of the city, besides being close to the railway station. Under Sect. 1 of the new Act, Part. III. of the 1890 Act shall extend to every district.

Sect. 2. of the new Act will enable a Local Authority to purchase land compulsorily for the purpose of the Act.

Under Part II. of the Act power is given to Local Authorities to make a town-planning scheme. The Hereford Town Council can already claim to have carried out such a scheme in co-operation with the "Hereford Co-operative Housing Ltd.," and the planning has been carried out in an ideal manner.

In the future it will be incumbent on Local Authorities to prepare and execute town-planning schemes, and where any person's property has been increased in value by such a scheme the responsible Authority will be able to receive from the owner of the property half the amount of that increase.

There can be no doubt that the work carried out under the Housing Acts in this town will have a most beneficial effect on the health of the inhabitants, and indirectly will cause a reduction in the number of cases of consumption.

THE HOUSING, TOWN PLANNING, ETC., ACT, 1909.

Part I.—HOUSING OF THE WORKING CLASSES.—FACILITIES FOR ACQUISITION OF LANDS AND OTHER PURPOSES OF THE HOUSING ACTS, SECTS. 1-9.—Sect. 1. Hitherto Part. III. of the H.W.C. Act, 1890, has only been in force where adopted by a Local Authority. Under Sect. 1. this is altered, and Part III. of the Act of 1890 shall extend to and take effect in every urban and rural district or other place for which it has not been adopted.

One of the first difficulties which Local Authorities have encountered on taking up the housing question has been the securing of land for the purpose at a reasonable cost.

Sect. 2 enables a Local Authority to purchase land compulsorily for the purpose of the Act by means of an order submitted to the Local Government Board, and confirmed by that Board, in accordance with the procedure described in the First Schedule. One of the clauses of this schedule provides that in determining the amount of any disputed compensation under any such order, no additional allowance shall be made on account of the purchase being compulsory.

Sect. 3 provides for the borrowing of money by Local Authorities from the Public Works Loan Commissioners, and extends to eighty years, the maximum period which may be allowed for repayment.

Sect. 6 empowers a Local Authority to lay out and construct public streets or roads in connection with housing schemes.

POWERS OF ENFORCING EXECUTION OF HOUSING ACTS, SECTS. 10-13.—Sect. 10. Under this section the Local Government Board, on complaint of a County Council, Parish Council or four inhabitant householders, may proceed to inquire as to a case of default, and make the requisite order, which may be enforced by mandamus.

Sect. 11. The Board under this section may order defaulting Authorities to carry out within a limited time, improvement schemes for “unhealthy areas,” under Part I. of the Act of 1890, or reconstruction schemes for “unhealthy dwellings” under Part II. of that Act.

Sect. 12 enables County Councils to act in default of a Rural District Council under Part III. of the Act of 1890.

Sect. 13. By this section the Local Government Board are enabled to confer on County Councils the powers of a Local Authority as regards any rural district or part of a district.

CONTRACTS BY LANDLORD, SECTS. 14-16.—Sect. 14 provides that in any contract for letting for habitation a house or part of a house at a rent not exceeding £40 in London, £26 in a borough, or urban district of 50,000 inhabitants; or £16 elsewhere, there shall be implied a condition that the house is in all respects reasonably fit for human habitation.

Sect. 15. In cases where the last Section applies there is also implied an undertaking that the house during the tenancy shall be kept by the landlord in all respects reasonably fit for habitation, and the landlord or Local Authority, or any person authorised by him or them in writing, may at all reasonable times of the day, on giving 24 hours' notice to the tenant in writing, enter any house, premises, or building to which this Section applies, for the purpose of viewing the state and condition thereof, should it appear to the Local Authority that the undertaking implied in this Section is not complied with, if a closing order has not been made, the Authority are by written notice to require the landlord, within a reasonable time, to carry out such works considered necessary and specified in the notice, to make the house in all respects reasonably fit for habitation.

The landlord, within 21 days after receipt of such notice, may by written notice to the Local Authority declare his intention of closing the house for human habitation, in which case a closing order shall be deemed to have become operative in respect to the house. Where the notice given by the Authority has not been

complied with and no notice in regard to closing has been given by the landlord, the Authority may do the work and recover the expenses.

A landlord may appeal to the Local Government Board against any notice requiring him to execute works under this Section, and against any demand for the recovery of expenses from him under this section by giving notice of appeal to the Board within 21 days after the notice is received.

Sect. 16. Under this Section the powers of making and enforcing bye-laws under Sect. 90, Public Health Act, 1875, and Sect. 94, Public Health (London) Act, 1891, with respect to houses or parts of houses which are let in lodgings or occupied by members of more than one family, shall in the case of houses intended for the working classes, also extend to the making and enforcing of bye-laws. For the purpose of discharging any duty so imposed, the owner or other person may at all reasonable times enter upon any part of the premises where an owner or other person has failed to execute any work which he has been required to execute under the bye-laws. The Local or Sanitary Authority, in case of default may, after giving not less than 21 days' notice in writing, themselves execute the works and recover the costs.

AMENDMENT OF PROCEDURE FOR CLOSING ORDERS AND DEMOLITION ORDERS, SECTS. 17-21.—Sect. 17. It is the duty of every Local Authority under this section to cause to be made from time to time inspection of their district, in order to ascertain whether any dwelling-house is so dangerous or injurious to health as to be unfit for habitation.

If, on the representation of the Medical Officer of Health, or of any other officer of the Authority, or other information given, any dwelling-house appears to them to be unfit for habitation, it is the duty of the Authority to make a closing order until in their judgment the dwelling-house is rendered fit for habitation.

Particulars are given in regard to the closing order, and when this has become operative notice of the order must be served on every occupying tenant in respect of which the order is made, and within a period not less than 14 days after the service of the notice the tenant and his family must leave the house.

Unless the dwelling-house has been made unfit for habitation by the wilful act or default of the tenant, reasonable allowance for removal may be given by the Authority to the tenant.

Sect. 18. Where a closing order in respect of a dwelling-house has been in operation for a period of three months, the Local Authority shall take into consideration the question of demolition, in which case notice is given to the owner of the time and place at which the question will be considered, and the owner will be entitled to be heard.

Should the Local Authority be of opinion that the dwelling-house has not been rendered fit for habitation, and proper steps are not being taken to render the house fit, they shall order the demolition of the building.

Previous to the present Act coming into force, application for a closing order had to be made before a Court of Summary Jurisdiction, and in some cases the application for a closing order was refused even when there were very good grounds for obtaining it; now the Local Authority can deal with the matter.

AMENDMENTS WITH RESPECT TO IMPROVEMENT AND RECONSTRUCTION SCHEMES AND OTHER MATTERS, SECTS. 22-53.—The procedure under these Sections is amended, strengthened and simplified. Sect. 43 prohibits the erection of back-to-back houses, the only exceptions being:—

(1) Houses containing several tenements in which the tenements are placed back-to-back; if the Medical Officer of Health certifies that the tenements are so constructed as to secure effective ventilation of all habitable rooms; and

(2) houses abutting on streets approved before May 1st, 1909, in places where there are local Acts or bye-laws in force permitting back-to-back houses.

Sect. 44 gives the Local Government Board power to revoke unreasonable bye-laws.

Sect. 50 provides that the expression "cottage" may include a garden of not more than one acre. In Sect. 53 of the 1890 Act the amount of garden was limited to half an acre.

The Housing Acts are applied to Scotland in Sects. 52 and 53, with the necessary modifications.

PART II.—TOWN PLANNING, SECTS. 54-67.—Sect. 54. This section provides that a "town-planning scheme may be made in accordance with the provisions of this Act as respects any land which is in course of development or appears likely to be used for building purposes, with the general object of securing proper sanitary conditions, amenity and the conveniences in connection

with the laying out and use of the land, and of any neighbouring land." In this clause is indicated the general aim of the new Act. In the sections which follow are set out the powers of the Local Government Board as regards revising, approving, varying, or revoking schemes, prescribing sets of general provisions for carrying out the general objects of town-planning schemes, or for dealing with areas of special character.

In Germany the practical interpretation of the Town Planning Act of 1875, in regard to the scope of a town-planning scheme, has been to regard land likely to be used for housing and similar purposes during the next 30 years, as coming within the scope of a scheme.

Under Sub-section 2, Section 55, the Local Government Board are, for the purpose of a town-planning scheme, given power to suspend, so far as is necessary for the carrying out of the scheme, any bye-laws relating to width of road, character and methods of road-making, etc., governing the present methods of dealing with the areas concerned.

Sect. 55. The provisions made under this section may include "the restrictions on the number of buildings which may be erected on each acre, and the height and character of those buildings."

Sect. 58. Sub-section 3 provides that where any property is increased in value, the responsible Authority may recover from any person whose property is so increased in value one-half of the amount of that increase.

Sect. 60. This section, along with Sect. 6 of Part I. of the Act, gives to Local Authorities full powers to purchase estates. The land may be purchased by agreement or under compulsion and, in the event of the compulsory power being used, an arbitrator shall be appointed by the Local Government Board, and no additional allowance shall be made on account of the purchase being compulsory (Schedule 2).

Under Sect. 6, Part I., power is given to Local Authorities to lay out and construct streets or roads on such land. Local Authorities are thus given full powers themselves to develop garden suburbs, either by building cottages (under Part III. of the Act of 1890, as amended in the present Act), or, by constructing roads and leasing building sites (under Sect. 5 of the Act of 1900). Sect. 61 gives power to the Local Government Board to order a Local Authority to prepare

a town-planning scheme in cases where the Board are satisfied, on any representation, after holding a public local inquiry, that the Local Authority have :—

(a) Failed to take the requisite steps for having a satisfactory town-planning scheme prepared and approved in a case where a town-planning scheme ought to be made : or

(b) Failed to adopt any scheme proposed by owners of any land in a case where the scheme ought to be adopted : or

(c) Unreasonably refused to consent to any modifications or conditions imposed by the Board.

Part III.—This part relates to the appointment and duties of County Medical Officers, the establishment of County Public Health and Housing Committees, etc.

(A large part of the above summary in regard to the Town Planning clauses of the Act has been taken from an abstract published by the "National Housing and Town Planning Council.")

FACTORIES AND WORKSHOPS.

Under the Factory and Workshop Act of 1901, factories are visited by H.M. Inspector. Altogether there are 83 in the City, and workshops and workplaces are under the supervision of the Health Department.

All places in which either steam, water, or other mechanical power is used in aid of the manufacturing processes, are reckoned as factories, including bakehouses and laundries.

The following is a list of the Factories in the City, and the nature of the work is shown :—

Food, Drink, &c. :—

Cider Makers	..	..	..	..	..	..	..	6
Breweries	..	..	..	..	..	..	..	4
Bakehouses	..	..	..	..	..	..	..	4
Acrated Water Manufacturers	..	..	..	..	..	..	..	3
Flour Mills	..	..	..	..	..	..	..	3
Grist Mills	..	..	..	..	..	..	..	3
Bottlers	..	..	..	..	..	..	..	3
Chaff Cutters	..	..	..	..	..	..	..	2
Sausage Makers	..	..	..	..	..	..	..	2
Jam Manufacturer	..	..	..	..	..	..	..	1
Currant Washing	..	..	..	..	..	..	..	1

Building and Furnishing Trades :—

Builders	4
Saw Mills	3
Joiners	2
Cabinet Makers	2
Brick Manufacturer	1
Tile Manufacturer	1
	—13

Letter Press Printers :— 11

Engineering, etc. :—

Motor Engineers	4
Engineers	3
Cycle Engineers	2
Foundry	1
	—10

Clothing :—

Bootmakers	2
Tailor	1
Leather Dresser	1
Laundry	1
	— 5

Coach Builders 2

Lighting :—

Coal Gas	1
Electricity	1
	— 2

Miscellaneous :—

Firewood Cutters	2
Organ Builder	1
Chemical Manure Manufacturer	1
Watch Maker	1
Photographic Instrument Maker	1
Bookbinder	1
Sculptor	1
	— 8

Total .. 83

The whole of the workshops (including bakehouses and workplaces, have been visited during the year. Most of the bakehouses and workplaces have been visited by the Sanitary Inspector, and I have visited the majority of the workshops personally. Altogether 20 visits to factories and 337 visits to workshops and workplaces have been made.

Details in regard to the work done are given in the accompanying report, which is required by the Home Office, and is given on their official form: in addition separate lists of workshops and workplaces are given on pages 95-97.

Notice of occupation of 4 workshops during 1909 was given by H.M. Inspector of Factories.

WORKSHOPS.

1. **CLEANLINESS.**—On the whole the premises were found to be clean, but in 26 instances it was necessary to send notices in regard to cleanliness.

2. **AIR SPACE.**—In no case was there any overcrowding, further reference is made in regard to this matter and ventilation later.

3. **VENTILATION.**—In 4 cases notices were sent in regard to additional ventilation.

4. **DRAINAGE OF FLOORS IN WHICH WET PROCESSES ARE CARRIED ON.**—These processes include laundries, tripe boiling places, &c., There are three laundries, and in each case the drainage of the floors was satisfactory.

5. **PROVISION OF SUFFICIENT AND SUITABLE SANITARY CONVENIENCES :—**

(a) In Workshops (excluding bakehouses). Since the Act came into force a large amount of work has been carried out in regard to the provision of proper sanitary conveniences for each sex and attention has been paid to other sanitary defects.

In only one case is there an earth-closet provided, on account of the sewer not being within 100 feet of the premises. The water carriage system has been generally adopted. Notices in regard to the following matters were served during the year :—

Defective and insanitary waterclosets	..	..	..	8
Want of sanitary convenience	..	..	..	1
Unsuitable sanitary convenience	..	..	..	1

Attention was called to the following by H.M. Inspector of Factories :—

Insanitary waterclosets	..	..	..	..	1
Sanitary convenience not separated from workshop					1

(b) In Factories.—As Sect. 22, Public Health Acts Amendment Act, 1890, is in force in this town, the responsibility in regard to sanitary conveniences in factories and workshops rests with the Town Council.

Notices were sent in regard to two defective and insanitary waterclosets during the year.

6. DRAINAGE DEFECTS, &C.—Notices were sent in regard to to the following defects :—

Untrapped or defective drainage	..	..	..	4
Defective spouting	..	..	..	1
Defective windows	..	..	..	2
Defective floors	..	..	..	2
Defective staircase	..	..	..	1
Workshop unfit for occupation	..	..	..	1

Attention was drawn by H.M. Inspector to defective spouting in connection with a laundry.

MILLINERY AND DRESSMAKING.—There are 34 workshops registered for this purpose, containing 50 work-rooms. The rooms have all been carefully measured and the cubic space ascertained. Workshops must not be so overcrowded while work is carried on as to be dangerous or injurious to health. They are deemed to be so overcrowded if at any time there is less than 250 cubic feet of air space for each person (or during overtime, 400). It is on this basis that the accommodation in the various workshops, including the above, has been reckoned. There were 266 females employed, and there was accommodation for 414 persons. In a few instances only was the permissible accommodation fully taken up and there was no case of overcrowding. The majority of the rooms were clean and the ventilation usually provided by means of windows was good. In a good many cases there was additional ventilation through open fireplaces, and in a few cases there were inlets or outlets in the walls.

The lighting was on the whole good. The workrooms were in connection with places of business in 18 cases, and in 16 instances in private houses. During my visits I usually found that the means of ventilation was being used.

TAILORING.—There were 20 rooms belonging to 15 workshops used by 50 males and 4 females. There was accommodation in the workrooms for 111 persons, but in only a few instances was the available accommodation taken up, and there was no overcrowding. Of the 15 workshops, 11 were in connection with shops and 4 were in private houses. In the majority of cases ventilation was by means of windows and open fireplaces, gratings and other forms of inlets and outlets being used in a few instances. The lighting was on the whole good. Although in the majority of cases there was proper means of ventilation provided, the ventilation at the time of my visit was only fair. On account of the confined position in which tailors sit as well as exposure to extremes of temperature, it is important that efficient ventilation should be provided and maintained.

BOOT REPAIRING.—There were 9 workrooms, and 16 men employed. There was accommodation for 24 persons and in 5 cases the full accommodation was taken up. In 8 cases there was a shop and workshop combined, so that there was always a certain amount of ventilation through the door on account of persons passing in and out. In one case the work was carried on in the basement of a private house and the light and ventilation were not very good. In two cases ventilation was provided by means of a window over the door: in three cases by windows, and in other cases there was additional ventilation through an open fireplace. The ventilation on the whole was only fair.

SADDLERY.—The 11 workshops contained 12 rooms; there was accommodation for 57 persons, but only 25 were employed. The ventilation and lighting were on the whole satisfactory.

REMARKS.—The sawdust in connection with the joiners' shops was in some cases allowed to accumulate. It is important that dust should be removed. It would also be useful if a point were made of cleaning the interior of blacksmiths' shops at least once a year: of necessity there is a good deal of black dust associated with this trade, but there is no reason why the workshop should not be cleaned down sometimes and even limewashed.

In connection with the remaining workshops, the lighting and ventilation were good and the amount of air space ample, as will be seen in the table on page 95.

The health of those employed in workrooms will to a large extent depend on the proper use of available means of ventilation; and this is especially important in the case of tailors, shoe-makers and others who in the course of their work sit in a stooping or cramped position. Breathing impure air predisposes to Phthisis.

Altogether in the town there are 151 workshops (not including bakehouses), of which 14 are classed as domestic workshops. Domestic workshops are private houses where the members of the family regularly exercise manual labour to gain the chief means of living.

In the 248 work-rooms in connection with 151 workshops altogether 600 persons were employed (297 males and 303 females).

Nature of Work.	No. of Work- shops.	Number of rooms.	No. employed.	
			Males.	Females.
Blacksmiths	14	44	18	..
Plumbing and Gasfitting ..	9	16	28	..
Cabinet Making & Upholstery	7	17	30	3
Antique Furniture Repairers	2	3	8	..
Jewellers & Watch Repairers	8	8	13	..
Carpenters & Joiners	6	7	22	..
Cycle Repairers	7	8	19	..
Carriage Builders	3	10	22	..
Carriage Painter	1	2	1	..
Picture-frame Makers	3	4	10	..
Dentists	3	3	8	1
Sculptors	3	6	7	..
Laundries	3	7	..	24
Tinsmiths	2	2	2	..
Bottlers	21	2	2	..
Hop-warehouse	1	8	2	..
Boat-building	2	2	5	..
Art Needlework	1	1	..	3
Wool Knitting	1	1	..	1
Sewing-machine Repairer ..	1	1	1	..
Cooper	1	1	1	..
Cattle Medicine Manufacturer	1	2	2	1
Sweet Manufacturer	1	1	1	..
Basket-Maker	1	1	4	..
Total	82	157	206	33

OUTWORKERS.

The occupier of any factory or workshop must keep a prescribed list showing the names and addresses of all persons employed outside the factory or workshop in certain specified classes of work. The classes of work to which this requirement applies are shown under Home Work in the report which is sent to the Home Office.

In Hereford, outworkers are engaged in three branches of work only, viz., wearing apparel, sack making and repairing, also furniture and upholstery.

The occupier must twice a year (on or before 1st February and 1st August) send a copy of a list of outworkers to the Local Authority. Usually there is some difficulty in obtaining these lists regularly, and to avoid delay, forms to be filled in are sent to the occupiers a few days before the dates mentioned above. It was necessary to serve 14 notices on occupiers in regard to the sending of lists. During the year 70 visits were paid to outworkers' premises, the majority of which I made personally. Other particulars are given in the report to the Home Office regarding outworkers; there was no work carried on by outworkers in infected premises.

The work was carried out at 58 houses, and 51 males and 26 females were employed. The following rooms were used:—front living-room, 21; back, 17; front room first floor, 6; back, 8. In two cases a room leading out of a back bedroom on the first floor was in use, and in the remaining cases a room on the ground floor; a room on the top floor and an outbuilding in a yard were also used as work-rooms.

The rooms were, on the whole, clean. In 8 cases the walls and ceilings were dirty, and in 7 instances fairly clean. Instructions were given in regard to papering of the walls, or whitening of the walls and ceilings. The lighting and ventilation were on the whole good, and there was no overcrowding.

BAKEHOUSES.

There are altogether 29 bakehouses in the town; in connection with four, mechanical power is used, and these are reckoned as factories and 22 men are employed.

In the remaining 25 bakehouses 58 men are employed. There are two underground bakehouses, which were in use before the Act came into force. No new bakehouse is allowed to be constructed underground.

1. **CLEANLINESS.**—On the whole the premises have been kept clean; in some of the bakehouses the walls and floors are uneven, and on this account they are difficult to keep clean. Notices were sent in reference to the cleansing of 3 bakehouses. H.M. Inspector called attention to the need of limewashing in one case.

2. AIR SPACE.—There was no overcrowding, and the average number of persons employed was only two.

3. VENTILATION.—This was on the whole satisfactory. Windows were used in most cases. Too much fresh air interferes with the baking; on this account there is some difficulty in regard to ventilation.

4. SANITARY CONVENIENCES.—In one case a privy was provided, and in the remaining cases water closets.

5. DRAINAGE DEFECTS.—These defects have all been remedied since the passing of the Act.

WORK-PLACES.

This term is of wider significance than "workshop," and includes stable-yards, kitchens of restaurants or hotels, etc. It has been held by the Courts to include "any place where work is done permanently."

The following table shows the work-places and the number of persons employed in connection with each :—

Work-place.	Number.	Number employed.	
		Males.	Females.
*Stable-yards	32	63	..
Restaurant Kitchens	6 (8 rooms)	1	20
Depositories	2	6	..
Hide & Skin Depot	1	6	..
Bottling Stores	1	3	..
Totals	42	79	20

* In two cases used as garages also.

On the whole the above premises were kept in a sanitary condition. The following notices were necessary in connection with workplaces (other than stable yards):—

Cleansing	1
Untrapped drainage	1
Defective floor	1

REPORT FOR 1909.

Factories, Workshops, Workplaces, and Homework.

1.—INSPECTION.

Including Inspections made by Sanitary Inspector.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
FACTORIES (Including Factory Laundries).	29	4	—
WORKSHOPS (Including Workshop Laundries).	271	59	—
WORKPLACES	66	12	—
TOTAL	357	66	—

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions
	Found.	Remedied	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness	27	26	—	—
Want of ventilation	5	4	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	20	18	—	—
†Sanitary { insufficient	1	1	—	—
accommodation { unsuitable or defective	11	11	—	—
{ not separate for sexes	—	—	—	1
<i>Offences under the Factory and Workshop Act :</i>				
Illegal occupation of underground bake- house (S. 101)	—	—	—	—
Breach of special sanitary requirements for bakerhouses (SS. 97 to 100)	3	3	—	—
Other offences	—	—	—	—
Total	70	66	—	1

* Including those specified in Sections 2, 3, 7 and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

† Section 22 of the Public Health Acts Amendment Act, 1890, has been adopted by the District Council; and the standard of sufficiency and suitability of sanitary accommodation for persons employed in factories and workshops has been enforced as laid down in "The Sanitary Accommodation Order of 4th February, 1903, No. 89."

OUTWORKERS' LISTS, SECTION 107.

NATURE OF WORK.	Lists received from Employers						Addresses of Outworkers.	
	Twice in the year			Once in the year.			Received from other Councils.	Forwarded to other Councils.
	Outworkers.†			Outworkers.†				
	Lists.†	Con- tr'c'rs	Work- men.	Lists.	Con- tr'c'rs	Work- men.	8	(9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)		
Wearing Apparel— (1) making, etc...	10		143	3	—	8	2	1
(2) cleaning and washing ..								
Lace, lace curtains and nets								
Artificial flowers ..								
Nets, other than wire nets								
Tents								
Sacks	2		3			—	—	—
Furniture and up- holstery	2		6	1	—	1	—	1
Fur pulling.....								
Feather sorting....								
Umbrellas, etc.								
Carding, etc., of but- tons, etc.								
Paper bags & boxes								
Basket making								
Brush making								
Racket and tennis balls.....								
Stuffed toys								
File making								
Electro-plate								
Cables and chains ..								
Anchors & grapnels.								
Cart gear								
Locks, latches and keys								
Pea Picking								
TOTAL	14	—	152	4	—	9	2	2

† The figures given in columns 2, 3 and 4 are the *total* number of lists (received from employers who sent them both in February and August as required by the Act) and of the entries of names of outworkers in those lists.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.	Number
(1)	(2)
Workshops, Bakehouses	25
.. Domestic	14
.. Laundries	3
.. Miscellaneous	134
Workplaces	42
Total number of workshops on Register.....	218

WORK.

Notices served on Occupiers as to keeping or sending lists.	Prosecutions.		Inspections of Out-workers' premises	OUTWORK IN UNWHOLE-SOME PREMISES, SEC. 108.			OUTWORK IN INFECTED PREMISES, SECS. 109, 110.		
	Failing to keep or permit inspection of lists.	Failing to send lists.		In-stances.	Notices served	Prosecutions	In-stances.	Orders made (S. 110.)	Prosecutions (S. 109, 110.)
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
11	—	—	67	—	—	—	—	—	—
1	—	—	2	—	—	—	—	—	—
1	—	—	1	—	—	—	—	—	—
16	—	—	70	—	—	—	—	—	—

5. - OTHER MATTERS.

Class. (1)	Number (2)
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133)	4
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5)	5
Notified by H.M. Inspector...	5
Reports (of action taken) sent to H.M. Inspector.....	4
Other	—
Underground Bakehouses (s. 101):—	
Certificates granted during the year	—
In use at the end of the year	2

STABLE YARDS.

Seventeen of the stable yards were in connection with hotels. All the stables were paved and in addition 13 of the yards; 19 of the latter were unpaved or gravelled. One of the stables was burnt down in June, 1908. Brick manure receptacles were provided in connection with 17 stables; in three cases no receptacle was provided, as the manure was removed daily.

Particular attention was paid by the Sanitary Inspector in regard to accumulations of manure, and it was necessary to serve notices in 5 cases.

The following notices were also sent:—

Defective and insanitary waterclosets	2
Dilapidated stables	1

It is important that manure should not be stored for long periods, especially where the accumulation is in close proximity to dwelling-houses. Horse dung is known to be a favourite breeding place for flies. In the summer months when animal or vegetable matter is undergoing decomposition, large numbers of flies will be found in the vicinity of such refuse. Flies grow with enormous rapidity. A single generation will come to maturity in about ten days, and in some cases as many as twelve generations may develop in a single summer. Mention has already been made of the role flies play in the spread of Zymotic Diarrhœa.

RESTAURANT KITCHENS.

There are 6 restaurant kitchens in connection with which 20 females are employed. Three of the kitchens are in connection with hotels, and three in connection with cafés. The hotel kitchens are on the ground floor, and the accommodation is ample. The lighting is on the whole good, and ventilation is provided by means of windows.

One of the café kitchens is on the ground floor, and there is good accommodation. Light and ventilation are provided by skylight windows, and are only fair.

In the two remaining kitchens the light is poor, and in both cases artificial light has to be used. In one case ventilation is through a grating looking on to the pavement, and in the other case there are outlet openings connected with shafts carried to outside passages.

SLAUGHTER HOUSES.

A description was given in the Annual Report for 1908 of the public abattoir and lairages.

During the year additional accommodation for slaughtering has been provided on account of the gut-scraping business having been transferred to a new building in another part of the grounds. Complaints have been received in regard to the lighting of the slaughter-houses, and I hope that electric light will be shortly installed as recently suggested by the Roads Committee.

There are still two private slaughter-houses in the City, and during the year 100 visits were paid. No notices were necessary in regard to contravention of the bye-laws.

The following tables show the number of animals slaughtered in the public abattoir each month during the year, and comparisons are also made with the previous 9 years.

1908.	Beeves	Calves	Sheep	Lambs	Pigs (Pork)	Pigs (Bacon)	Total
January	143	6	657	..	183	107	1096
February	112	14	477	1	143	60	807
March	109	28	448	2	145	48	780
April	111	56	514	70	113	37	901
May	136	71	626	245	83	7	1168
June	103	64	446	329	39	..	981
July	123	75	510	429	43	..	1180
August	93	37	424	326	28	3	911
September ..	106	33	420	306	107	54	1026
October	149	23	724	58	184	76	1214
November ..	124	12	644	..	155	87	1022
December	142	6	582	..	168	106	1004
Total	1451	425	6472	1766	1391	585	12090

YEARS 1900-1908.

YEAR	Beeves	Calves	Sheep	Lambs	Pigs (Pork)	Pigs (Bacon)	Total
1900 ..	959	429	4441	1131	1405	149	8514
1901 ..	1122	932	4401	1139	1100	113	8307
1902 ..	1183	424	4760	1385	1198	164	9114
1903 ..	1142	338	5002	1391	1338	508	9719
1904 ..	1146	358	5222	1572	1366	380	10044
1905 ..	1289	410	4780	1309	1225	391	9404
1906 ..	1289	462	4917	1302	1150	377	9497
1907 ..	1283	444	4711	1343	1300	506	9587
1908 ..	1492	428	5608	1633	1579	440	11180
Total for 9 yrs.							
1900 to 1908	10905	3725	43842	12205	11661	3028	85366
Average for do.	1211	414	4871	1356	1295	336	9485

DISEASED CARCASSES.—During the year attention was drawn by the Manager to diseased conditions in animals, etc., in nine cases. The following conditions were found :—

(1) A carcase of a bullock showed signs of peritonitis. The whole of the middle quarter, weighing 120lbs., was surrendered and destroyed.

(2) A heifer when slaughtered was found to have septic metritis.

(3) In the case of a carcase of a sheep, there were signs of chronic cystitis and pulmonary congestion.

(4) A sheep was found dead in one of the pens. The cause of death was probably pneumonia and enteritis.

(5) In the case of another sheep, death was due to pneumonia.

(6) On March 24th my attention was drawn to the carcase of a pig. On account of the red appearance of the skin and ulceration of the intestine, I suspected Swine Fever. Mr. Steward, Veterinary Surgeon, was asked to see the carcase, and on his advice the case was notified to the Chief Constables of the City and County as suspicious Swine Fever. The pig was brought from an outside district and the usual precautions were taken.

In the above cases the carcasses were surrendered and destroyed.

(7) A sheep was sent to the Slaughterhouse. Examination of the carcase showed that there was inflammation, due to injury in and around the joint of the right hind leg. The leg, weighing 5lbs., was removed and destroyed.

(8) The carcasses of two pigs which were examined by the Veterinary Surgeon to the Board of Agriculture as being suspicious of Swine Fever, were destroyed.

The small amount of disease, including Tuberculosis, amongst the animals slaughtered is very satisfactory.

OTHER UNSOUND FOOD.

A box of herrings and 24 rabbits were voluntarily surrendered on account of decomposition and destroyed.

SALE OF FOOD AND DRUGS ACTS, 1875 to 1907.

During the year 50 samples were taken by Mr. Protheroe as Inspector under the Acts, and the results have been given in the quarterly reports of the City Analyst.

The following table shows the number and nature of Articles purchased for analysis during the year 1909, and the result of the analyses :—

Articles.	Number of Samples purchased.	Number Genuine.	Number Adulterated.
Milk	24	23	1
Skimmed Milk	1	1	..
Butter	21	21	..
Pepper	1	1	..
Custard Powder.....	1	1	..
Baking Powder	1	1	..
Corn Flour	1	1	..
Total	50	49	1

MILK.—The most common adulterations of milk are the addition of water or the abstraction of fat. The Sale of Milk Regulations of 1901, which followed the report of a Departmental Committee appointed by the Board of Agriculture, contain the following :—

(a) Where a sample of milk contains less than 3 per cent. of milk-fat, it shall be presumed until the contrary is proved, that the milk is not genuine by reason of the abstraction therefrom of milk-fat or the addition thereto of water.

(b) Where a sample of milk contains less than 8.5 per cent. of “solids not fat,” it shall be presumed until the contrary is proved that the milk is not genuine by reason of the abstraction therefrom of “solids not fat” or the addition thereto of water.

(c) When a sample of skimmed or separated milk (not being condensed milk) contains less than 9 per cent. of solids (including fat), it shall be presumed that the milk is not genuine.

These regulations are in force throughout Great Britain.

As the result of a large number of chemical analyses of cows' milk by various observers, it has been found that 4 per cent. of fat is the average amount present; the 3 per cent. of fat must therefore be looked upon as the minimum permissible quantity allowed. The amount of "solids not at" if below the standard is a good index of watering.

Twenty-four samples of milk were taken in the town during the year, of which six were purchased informally. Of the samples taken formally eight were purchased from shops and 10 from purveyors in the street. Five samples were certified as "genuine and of very high quality," 1 as "genuine and of good quality," 17 as "genuine" and 1 as "adulterated" being deficient to the extent of 10 per cent. of fat; this sample was purchased informally. Further samples taken from the same vendor were found to be genuine. A sample of skimmed milk was of good quality.

BUTTER.—This article usually contains about 85 per cent. of fat, besides water, casein, and salts. The casein is usually about 2.5 per cent. The water varies from 8 to 12 per cent. in good butter and should not exceed 16 per cent.

The Regulations for the sale of butter made in 1902 by the Board of Agriculture, provide that "where the proportion of water in a sample of butter exceeds 16 per cent., it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the butter is not genuine by reason of the excessive amount of water therein."

The chief adulterations practised in connection with butter are the substitution of foreign fat and the addition of water or preservatives. Margarine, which is sometimes sold as butter, is prepared from fats for the most part of animal origin.

During the year 21 samples of butter were purchased "informally" by an agent. All were certified to be genuine, although four contained respectively 14.1, 14.2, 14.4 and 14.9 per cent. of water; approaching the limit allowed.

OTHER SAMPLES.—The samples of pepper, custard powder, baking powder, and corn flour were purchased "informally." In no case was any adulteration found. The custard powder and baking powder were genuine and free from alum, and the sample of corn flour was of good quality. It will be seen that the results of the analyses of the samples were on the whole very satisfactory.

A recent investigation has been carried out by Dr. MacFadden, for the Local Government Board on "Preservatives in meat foods, packed in cans or glass." He found that the majority of canned and glass-packed meat foods were prepared without the use of any preservative, and that most manufacturers in the trade no longer claim that their use is necessary.

In the preparation of some canned meats, especially those containing bacon, ham, and tongue, the canner, although he does not add preservatives, may use meat which contains boric acid, and it is sometimes represented on this account that the accidental presence of boric acid cannot be avoided.

The above report indicates that bacon and ham free from boron preservatives, can be obtained without difficulty by the canner, while the practice of adding boric acid to the pickle in which the tongues are imported for canning has now been discontinued in consequence of the provisions of the Foreign Meat Regulations, 1908.

OFFENSIVE TRADES.

The following are the offensive trades in this town:—Gut-scraping business, 1; hide and skin receiving depots, 2; tripe boiling places, 7.

Frequent visits have been made to these places during the year, and particular attention was paid in regard to cleanliness and proper storage and removal of trade refuse. The condition of the premises was on the whole satisfactory. Some of the buildings in which tripe is made could be improved, and others might be replaced with advantage. It is important to have smooth surfaces which can be washed down readily.

The gut-scraping business, which was located in one of the public slaughterhouses, was transferred to a building erected in another part of the Corporation grounds on the instruction of the Watch and Markets Committee. Complaints had been made by butchers of the smell in connection with the business. The building is constructed of galvanised iron, and is 32 feet long and 15 feet broad. It contains a store-room, a room for scraping and cleaning, and a drying room. The floor is of concrete with a channel leading to a properly trapped gully. The rooms are lofty, and ventilators have been provided in the windows which open outwards. The walls and floors can be readily cleansed.

FRIED FISH SHOPS.

There are 8 fried-fish shops in the town, but in two of the shops fried fish is only sold occasionally, the main business being in greengrocery. On the whole the trade is carried on in a satisfactory manner. Freedom from objectionable smells depends largely on the cleanliness of the apparatus for frying and as to whether proper means have been provided for getting rid of the fumes. The oil used for frying should be of good quality, as smells are more likely to arise from use of inferior oil.

MARINE STORES.

Only four places are used for this purpose. Visits were paid during the year and in each case the business was found to be conducted in a satisfactory manner. During the summer storage of bones is likely to cause smell. It is important, therefore, that there should be no accumulation for any length of time. It is customary to mix either chloride of lime or other disinfectant with the bones to prevent any odour arising.

Under Section 86 of the Public Health Acts Amendment Act, 1907, special conditions have been laid down in regard to the carrying on of the business as follows:—

(1) Every person who shall carry on business as a dealer in old metal or as a marine store dealer shall register his name and place of abode, and every place of business, warehouse, store, and place of deposit occupied or used by him for the purpose of such business, in a book to be kept for the purpose at the offices of the local authority.

(2) Every person carrying on business as aforesaid shall correctly enter in a book to be kept by him for that purpose the description and price of all articles purchased or otherwise acquired by him, and the name, address, and occupation of the person from whom the same were purchased or otherwise acquired.

(3) Every person who shall carry on such business without having so registered or without keeping such book and making such entries as required by this section shall be liable to a penalty not exceeding five pounds and to a daily penalty not exceeding forty shillings.

ICE-CREAM PLACES.

Ice-cream is made of milk or cream mixed with other ingredients, the whole being then boiled together. After cooling the mixture is frozen. Outbreaks and isolated cases of typhoid or diarrhoeal disease have been caused by the consumption of ice cream; it is therefore important that this article should be prepared under proper sanitary conditions. Ice-cream may become infected owing to storage in infected premises between the process of "boiling" and "freezing."

There is only one regular street vendor in the town, and in addition ice-cream is sold at 6 sweet shops (three shops receive their supply from one source) and in addition, at a baker's shop, a confectioner's and also at several cafés in the town. I made a personal inspection of the premises in each case, and particular attention was paid to the cleanliness of the vessels, suitability of place for storage and general sanitary condition of the premises.

In the case of the vendor the sanitary condition of the premises was good, the vessels were clean, and the ice-cream was stored in a pantry provided with sufficient ventilation by means of a window. The floor was concreted and the walls linewashed. The drainage has been recently overhauled.

In regard to the other premises the conditions under which the ice-cream was made were on the whole satisfactory. At one place (a sweet shop) the ice-cream was made in the basement, the walls and ceiling of the room were very dirty; at the same time the room was well ventilated and the floor smooth. Several vessels containing the ice-cream in course of preparation were placed on the floor. I gave instructions that the room should be thoroughly cleansed, the ceiling and floor linewashed and that the vessels should be kept on a clean table: this work was afterwards carried out. In each case town water was supplied.

SMOKE NUISANCE.

The absence of smoke is a noticeable feature of the town, and the exterior of the buildings presents a clean appearance. Special observations were made on 4 occasions where the amount of black smoke from chimneys appeared to be excessive.

Five letters were sent in connection with the emission of black smoke from chimneys other than those belonging to dwelling houses, and verbal notices were also given in several instances. No further proceedings were necessary.

WATER SUPPLY.

The water supply of the town is derived from the River Wye, and an account was given in my Annual Report for 1908 of the methods of storage and filtration in use.

During the year samples for bacteriological analysis have been taken of the raw river water at the intake, after passing through the mechanical filters and after final sand filtration. It was found that on the whole filtration was efficient and that a reduction of as much as 97 per cent. of the bacteria in the raw water could be obtained by means of the slow sand filter beds.

The gravity mechanical filters which are used without coagulant remove a large amount of the suspended matter, but only a very small proportion of the bacteria.

A chemical analysis which I made showed that the water was of good quality.

At times of flood the river water contains a large amount of suspended matter, and during this time pumping operations are stopped for as long a period as possible, but this period is limited to the capacity of the storage reservoir, which is $4\frac{1}{2}$ million gallons.

During the winter months the river water is often turbid and muddy for weeks at a time; the greatest amount is at times of flood, when a large amount of mud and organic matter are washed into the river.

Houston has recently shown that storage for a few weeks will not only rid the water of the bulk of the suspended matter, but that in addition there is a marked reduction in the number of bacteria in the raw water, including pathogenic germs such as the bacillus typhosus. Experiments made in connection with the longevity of this bacillus in raw Thames, Lee and New River waters showed that it ceased to exist in 99 per cent. of the cases within a week, although in a few cases it existed one or two months.

Algæ, which often in the summer form a green covering on the surface of the filter beds, are also got rid of by storage.

Bacteriological analysis of a sample taken from the River Wye during flood, showed that after storage for three days a considerable reduction in the bacteria had been effected.

The one drawback to the construction of a reservoir capable of holding about four weeks' supply is the cost.

In the case of the Wye water, if it were not for the use of the gravity mechanical filters, the sand filter beds would soon become choked, and this would necessitate frequent cleaning of the beds. When the river water is very turbid sometimes the combined use of the mechanical filters and the storage reservoir is insufficient to completely rid the water of finer suspended matter.

A sand filter bed takes three days to become efficient again after scraping, and a new bed takes about a week. For the first few days the water should be passed through the filter beds at a slower rate. Not more than 2,000,000 gallons of water per acre daily should be allowed to pass through slow sand filter beds.

The question of providing additional filtering area is at present under the consideration of the Waterworks Committee, and a report is being prepared by the City Surveyor and myself in regard to the matter.

I am indebted to the City Surveyor for the following particulars in regard to the amount of water consumed during the year.

Water consumed during the year ..	455,305,574 gallons.
Amount used for trade purposes ..	90,426,000 ..
(As ascertained by meter.)	

It will be seen that 364,879,574 gallons were used for municipal purposes and domestic use, equal to 44 gallons per head daily. This is a very liberal supply, as 25 to 30 gallons per head is considered an average supply for all purposes in Great Britain.

DISTRICTS SUPPLIED BY WELL WATER.—Whilst the bulk of the inhabitants are supplied with the town water, there is still a certain number of houses which obtain their water supply from wells. There are still 20 houses in Westfields where the drinking water is obtained from 12 wells, and there are still 14 wells in Hunderston, supplying 27 houses, and 79 wells in Tupsley, Holmer and other districts, the water of which is used for drinking and other purposes.

WATER ANALYSIS.—During the year I made a chemical analysis of 12 samples of well water. Most of the samples were taken after heavy rain. In four cases the water was free from contamination, and in eight cases pollution was detected. The samples were taken in the majority of cases from wells liable to pollution.

Samples of the water from two wells were also sent to the City Analyst, and in one case the water was found to be contaminated, confirming the results of my examination. The well was cleaned out, and the upper portion of the brickwork was rebuilt in cement and extended above the yard level, and in addition a cover was provided. The surface drains were relaid.

In another case the well is not now used, as the cottage is closed as unfit for habitation. A sample of well water found to be contaminated was from a farm to which the town water supply was also connected, and it was suggested that the well water should not be used for drinking purposes or for the washing of milk vessels.

In connection with four houses supplied by two wells in Westfields, the town water supply has been laid on, and in two other cases is about to be supplied.

POLLUTION OF RIVERS AND STREAMS.—In company with the City Surveyor, Sanitary Inspector and Councillor Gethen, I made an inspection of the River Wye in June last from Bredwardine to the Waterworks intake, a distance of 18 miles. The journey was made in a boat, and careful observations were made in regard to any sewage or other matter passing into the river.

It was found that there was not much pollution going on; and this was usually from houses or streams. Pollution must also occur at times from the privies of isolated houses, and also of houses on the banks of several streams which pour their contents into the river. A report was made to both the Sanitary and Waterworks Committees, and letters were sent by the Town Clerk to the various Rural Councils concerned. In other cases, letters were sent to the owners of houses, and as a result in several cases action has been taken or is about to be taken to deal with the sewage by means of septic tank treatment and filter beds; where privies are in use earth closets might with advantage be substituted. In several instances the sewage after being treated was allowed to flow through the land on its way to the river, and where the soil is of a gravelly or sandy nature additional purification of the effluent is being secured. At the same time there are several instances in which no action has been taken.

The largest amount of pollution in connection with rivers is that from towns or villages on the banks; fortunately in the case of Hereford the nearest town, Hay, which pours sewage untreated into the river, is 30 miles distant by water. The river also receives pollution from several towns beyond Hay.

On account of self-purification, sedimentation, side adhesion, dilution, sunlight, etc., it is probable that very little, if any, effect on the river water at the intake will be produced by the crude sewage and other offensive matter which passes into the river at Hay. At the same time any obnoxious matter, including bacteria, which may at ordinary times be got rid of, may at times of flood when the rate of flow of the river is increased reach the intake of the waterworks.

In 1889 an Order was issued by the Local Government Board restraining the Hereford Town Council from continuing the pollution of the River Wye by sewage ; in consequence it became necessary to remodel the whole system of sewage disposal.

Pollution of a river can be dealt with under Sect. 3 of the Rivers Pollution Prevention Act, 1876. "Every person who causes to fall or flow or knowingly permits to fall or flow or to be carried into any stream any solid or liquid sewage matter, shall be deemed to have committed an offence against this Act." Section 14 of the Local Government Board Act, of 1888, confers upon County Councils the powers of Sanitary Authorities under the Rivers Pollution Prevention Act.

YAZOR BROOK.—Complaint was made at the Health Office of the pollution of this brook near the boundary of the City. The brook passes through a meadow from which cattle drink, and it was considered that injury to their health had been caused. I visited the upper portion of the brook with the Sanitary Inspector ; the bank and bed of the brook were covered with black mud, and there was every appearance of improperly filtered sewage having been conveyed into the brook. Further down, near the Huntington Pool, the brook was clearer.

On another occasion, along with the Deputy Surveyor, I inspected the whole of the brook from the City boundary to the spot where it passes underground behind Eignbrook Chapel. There was a black deposit of filth on the bottom and sides of the brook, and this condition extended for about 250 yards, after which the brook gradually became clearer. At Huntington Pool it was comparatively clear, and no fresh pollution was found during the remainder of its course. The contents finally pass into the River Wye below the waterworks intake.

A report on the condition of the brook was made to the Sanitary Committee, and the attention of the Asylum Authorities was drawn to the matter, and instructions were given by them for the upper portion to be cleaned out. The question of means for more efficiently dealing with the Asylum Sewage is also under consideration.

SCAVENGING.

From a health point of view it is important that all refuse should be removed at frequent intervals. The system of weekly and bi-weekly removal of refuse under the supervision of the City Surveyor is an excellent one. The absence of ash-pits prevents the accumulation of rubbish.

In December I submitted a report to the Roads Committee on the provision of proper receptacles for ashes and house refuse at houses as required by Sect. 36, Public Health Act, 1815, and it was recommended by the Committee that in future the Council should require the owners of all new houses to provide in respect of each house an ash-pit and to intimate to the owners that the provision of a regulation ash-bin with a proper covering would be deemed by the Council sufficient compliance with the Public Health Act. The recommendation of the committee was adopted by the Council at a meeting held on January 4th. The question in regard to existing houses was referred to the Sanitary Committee. The above recommendation will be of much service, as in the past in connection with new houses no properly constructed receptacle has been provided; in future galvanized iron bins will be required.

The question of the provision of suitable ash receptacles in regard to existing houses has been considered by a joint meeting of the Sanitary and Roads Committees, and the following recommendations were adopted by the Council at the monthly meeting held on Feb. 1st, 1910.

1. "That the Council require occupiers of existing houses and business premises to provide suitable receptacles for house refuse with adequate and proper lids or coverings."

Paragraphs 2 and 3 referred to the arrangements for removal, and it was recommended that refuse in the central part of the City be removed between the hours of 8 and 9.30 a.m.

Under the above arrangements no refuse receptacle will be left standing on the pavement.

It is to be hoped that a large number of occupiers will procure a suitable galvanized iron bin with a cover. This can be purchased for a few shillings.

At Coventry owners of property have been recommended for some years to provide galvanized iron bins in the case of new and also of existing houses in lieu of the provision of proper ash-pits, and this has been carried out in a large number of cases.

During the year 35 per cent. of the refuse collected was taken to the Destructor in carts and burnt; I have been furnished with the following particulars by the City Surveyor:—

					Tons.
Refuse burnt	..	..	..	..	3822
Refuse tipped	..	..	..	..	6907
					<hr/>
Total	..	..	..	..	10729

In addition to house refuse, a large amount of animal and vegetable waste from shops of butchers, greengrocers, and fish-mongers and also from the slaughter-houses, was conveyed to the Destructor to be burnt.

SEWERAGE AND SEWAGE DISPOSAL.

In my Annual Report for 1908 I gave an account of the methods of disposal of the town sewage. A portion of the sewage (about 600,000 gallons daily) is treated by means of septic tanks and filter beds, and the remainder is distributed over the land. There are three filter beds formed of elinker and a fourth which is to be 2,160 square feet, is in course of construction, elinker being added from time to time from the Destructor. The land which receives the sewage covers 13 acres 6 roods, and is divided into 5 areas, containing 4 acres, $3\frac{1}{2}$ acres, 3 acres, $2\frac{1}{2}$ acres, and $1\frac{1}{2}$ acres respectively. The sewage is first screened and usually passes through the septic tanks before passing on to the land beds. The sewage can be turned on to any of these beds, and is distributed by means of trenches. As there is a bed of gravel underneath the surface, the downward filtration is satisfactory. There is an osier bed at the north-east corner of the grounds.

Chemical analyses which I made during the year showed that the effluents after tank and filter bed treatment of the sewage were clear and free from smell. Nitrites were present and the amount of organic matter was low, showing that the effluents were satisfactory.

WESTFIELDS.—This district has now been provided with a separate sewage installation. The work was begun at the end of 1908, and has now been completed. The sewage first passes through a grit chamber and thence into a septic tank; this consists of a circular, practically air-tight chamber of two feet diameter and 10 feet deep, with a capacity of 200 gallons.

In the tank the solid matter is to a large extent broken up by the action of anaërobic bacteria. The effluent from the tank flows into an automatic tipper and is then discharged over perforated

galvanized iron sheets on to the primary beds, which are formed of coke breeze and gravel and measure 40 square yards, with a depth of 3 feet. The effluent after leaving the primary beds is conveyed by 6-inch pipes to the secondary bed of the same construction as the primary bed. After filtering upwards through this latter bed it passes over a weir on to a bed of fine gravel. The effluent finally undergoes land filtration on its way to the adjoining brook. On account of the nature of the soil (gravel) the land filtration is very efficient.

OTHER SYSTEMS OF EXCREMENTAL DISPOSAL.—In the Westfields district 58 houses are connected with the sewerage system and 15 to cesspools. There still remain 50 earth closets and nine privies in this district. At Hunderton there are still privies, earth-closets and cesspools, and there are outlying parts of the town, such as Holmer, Tupsley and beyond Aylestone Hill which are not connected with the sewerage system, being outside the present drainage area.

ADMINISTRATIVE WORK, &c.

During the year the card system of keeping records was introduced in connection with Workshops, Workplaces, Bake-houses and Insanitary Property. Cards were also used for entering details in connection with cases of Consumption.

This method of keeping records was used in connection with Public Health Work by Dr. Coutts, until recently Medical Officer of Health for Blackpool, and worked very satisfactorily. The cards in use are eight inches long and five broad, and details are entered on both sides. In connection with inspections under the Factory and Workshop Act, a register is kept as before, giving the name of the occupier and situation of the workshop, etc., and a reference is made to the card which contains all other particulars.

A register has recently been started in connection with work carried out under the Housing of the Working Classes Acts; this contains the situation of the various houses, the name of the owner and the reference number of the card. A space is also left in which an entry is made stating whether the house has been rendered fit, closed or demolished.

Particulars in regard to visits made in connection with infectious disease are entered on printed sheets as before—a similar arrangement to the card system.

The cards used in connection with visits made under the Factory and Workshop Act can be arranged according to the work carried out and also according to streets.

Had the card system been adopted in connection with the Medical Inspection of School Children, the clerical work would have been greatly lessened.

Books containing particulars in regard to drainage, nuisances, cowsheds, common lodging houses, &c., have been carefully kept by the Sanitary Inspector, and the system of book-keeping which he has adopted has worked very satisfactorily.

Sanction has been obtained from the Local Government Board to declare certain parts and sections of the Public Health Acts Amendment Act, 1907, to be in force on April 4th, 1910. A summary of Parts III., IV. and V. is given on pages 122 to 126. Sections 38-42 and 44 have been omitted.

NUISANCES, INCLUDING DRAINAGE DEFECTS.

WORK DONE THROUGH THE SANITARY INSPECTOR.

DRAINAGE—

Obstructed drains opened and cleansed	59
Defective drainage repaired or relaid	161
Houses with insufficient drainage, extra provided	2
Houses connected to public sewer	14
Glazed stoneware gullies fixed	217
Drains removed from inside or underneath houses	21
Sewer interceptors fixed	22
Disconnecting and inspection chambers constructed	72
Inspection chambers repaired	12
Ventilating shafts fixed or repaired	47
Cesspools cleaned out or repaired	3
Cesspools abolished	2

WATER CLOSETS, PRIVIES, AND URINALS—

Obstructed w.c.'s opened and cleansed	29
Dilapidated w.c.'s repaired or rebuilt	73
New "washdown" basins fixed	53
Pedestal basins fixed	60
Soil-pipes removed from inside houses	2
Soil-pipes repaired or renewed	16
Ventilation provided to w.c. compartments	6
Insufficient accommodation, extra w.c.'s or earth-closets erected	2
Water supply provided to w.c.'s	18
Flushing apparatus repaired or new provided	118
Filthy closets limewashed	82
Privies converted into water or earth-closets	6
Privies cleansed out and abolished	9
Urinals constructed	5
Urinals repaired and limewashed	10

DWELLING HOUSES, etc.—

Filthy and dilapidated houses cleansed and repaired	69
Houses partly or entirely demolished	2
Houses closed as unfit for habitation	1
Pantries or food cupboards provided	2
Houses stripped and cleansed after inspection	3
Schools disinfected or cleansed	—
Roofs repaired	83
Chimneys raised or repaired	17
Floors relaid or repaired	110
Dangerous stairs and defective windows repaired	49
Dangerous cellar windows repaired	2
Cases of overcrowding abated	—
Dilapidated wash-houses repaired or rebuilt	15
Filthy wash-houses limewashed	32
Filthy cellars or passages limewashed	7
Stagnant water removed from cellars	—
Yards and passages paved or paving relaid	71
Water supply provided to houses	13
Dangerous disused wells filled up	4
Polluted wells closed	3
Wells cleaned out or repaired	2

SINKS, WASTE-PIPES, AND SPOUTING—

Dilapidated sinks repaired	18
New glazed stoneware sinks fixed	37
Waste-pipes provided to sinks	61
Waste and rain-water pipes disconnected from drains	47
Spouting repaired or provided	165

KEEPING OF ANIMALS AND MANURE—

Stables paved and drained	9
Floors of cowsheds relaid	2
Light and ventilation provided to cowsheds	2
Water supply laid on to cowsheds	—
Nuisances from animals improperly kept, abated	8
Accumulations of manure and refuse removed	32
Manure pits repaired or provided	—

MISCELLANEOUS—

Dairies and cowsheds limewashed on notice	—
Bakehouses	1
Slaughter-houses	—
Workshops	26
Common lodging-houses	—
Overcrowding of workshops abated	—
Workshops ventilated	1
Bakehouse floors scraped and cleansed	2
Miscellaneous nuisances abated	44

An account of drainage and other work necessary to abate nuisances, which has been carried out under the supervision of the Sanitary Inspector is shown in detail in the preceding table. The following table shows the number of notices served and those complied with during the year :—

Statute or Bye-law.	Notices served.		
	Pre-liminary.	Statutory.	Complied with.
Public Health Acts	370	9	333
Factory and Workshop Act ..	65	1	62
Housing of the Working Classes Acts	17	3	4
Infectious Disease (Prevention) Act	2	1	3
Regulations under Dairies, Cowsheds, and Milkshops Order..	6	..	1
City Byelaws	10	..	7
Total	470	14	410

There were 63 notices still not complied with at the end of 1909.

It is satisfactory to note that in only three cases were legal proceedings necessary during the year. Particulars are given in the table on page 122.

In addition to the above notices, 284 letters were also written by the Inspector and 69 reports were made to the City Surveyor respecting dangerous buildings, waste of water, and other matters connected with his department.

There were 207 complaints investigated, and 56 drains tested (by water, 48 ; by smoke, 8). It will be seen by the table on pages 118 and 119, that a large amount of work in connection with drainage defects, nuisances, &c., has been carried out by the Sanitary Inspector ; he has also paid a large number of visits to bake-houses, workshops, cowsheds, slaughter-houses and other premises, under the supervision of the Sanitary Authority. During the year D. H. Pickard, in addition to carrying out the clerical work of the Health Department, has also assisted in out-door sanitary work, and the visits made by him are included in the following list :—

Visits and Inspections :—

Nuisances	1098
Work in Progress	646
House to House Inspection	58
Infectious Disease	89
Number of visits paid to Registered Premises	456
Miscellaneous	113
Total	<hr/> 2460

In company with the Sanitary Inspector I visited the whole of the caravans used for habitation at the time of the May Fair. The sleeping and living-rooms were on the whole satisfactory, and no cases of infectious disease were detected.

In addition to alterations which have been carried out in houses under the Housing Acts, a large number of repairs have also been made in connection with property under the Public Health Acts.

HOUSE TO HOUSE INSPECTIONS.

Systematic inspections in connection with the following houses have been made during the year :—

Nos. 1 to 24, Moor Street.

Nos. 25 to 30, Grandstand Road.

Nos. 6 to 9, Ross Road.

Nos. 1 to 12, " Railway Terrace," Portland Street.

Nos. 128, 130, 132, 134, 136, 138, 140 and 142, Ledbury Road.

Ten preliminary notices were served for the abatement of the following nuisances :—

Dirty and unwholesome houses	7
Defective roofs to houses and outbuildings ..	17
„ spouting	9
„ floors and stairs	22
„ house doors	11
Windows not constructed to open	8
Want of damp course	1
Defective yard paving	6
Dirty walls of wash-houses and w.c.'s	6
Improperly trapped drains	11
Defective or insanitary w.c.'s	12
„ flushing apparatus	10
Miscellaneous nuisances	13

In the future in addition to inspections of houses in the urban part of the City it is hoped to make inspections from time to time in the suburban parts. There are houses in the outlying parts which are provided with well water and are without any system of drainage on account of the distance from the public sewer. Maps of each district of the City have now been provided, and no houses need be overlooked.

Particulars given in regard to water supply and sewage disposal indicate that there are a certain number of houses under similar conditions to what obtain in a rural district. The following particulars in this connection are of interest :—

Portion of City.	Population (1901).	Area in acres.	Number of persons per acre.
Urban	11,706	448	26.1
Suburban	9,676	4,583	2.1

The area of the City (5,031 acres), is as large as that of many a town with a population of over 100,000 persons.

LEGAL PROCEEDINGS.

<i>Offence.</i>	<i>Statute under which proceedings were instituted.</i>	<i>Fines.</i>			<i>Costs.</i>			<i>Remarks.</i>
		£	s.	d.	£	s.	d.	
Placing in a watercourse certain filth or excremental matter likely to cause annoyance.	Public Health Acts Amendment Act, 1890.	—			—			Case withdrawn after adjournment, the defendant disconnecting the sanitary conveniences from the watercourse.
Failing to comply with Closing Order under Public Health Act, 1875.	Public Health Act, 1875.	21	0	0	0	15	0	Fined £1 per day for 21 days and costs, 15s., or 2 months in 2nd division. Conviction suspended for a week with an expression of opinion to Sanitary Authority not to enforce penalty if defendant complied with the Order.
Want of Sanitary conveniences at factory.	Public Health Acts Amendment Act, 1890.	—			2	9	0	Dismissed on payment of costs, accommodation having been provided.

ADOPTIVE ACTS IN FORCE IN THE CITY.

The Infectious Disease Notification Act, 1889 (adopted in January, 1890).

The Infectious Disease Prevention Act, 1890 (adopted in April, 1891).

The Public Health Acts Amendment Act, 1890 ; (Parts II., III. and V. adopted in April, 1891).

The Public Health Acts Amendment Act, 1907—Part VI.; Part VII., Sects. 78-81 ; 83-86 ; Part VIII.; Part IX. (at present in force.)

The following Parts come into force on April 4th, 1910.—Part II., Sects. 15 and 16, 18 to 24, 26 to 33 ; Part III., 34 to 37, 43, 45 to 51 ; Parts IV., V. and X.

PUBLIC HEALTH ACTS AMENDMENT ACT, 1907.

PART III.

Section 34 extends the powers possessed under Sec. 41, P.H.A. 1875. Under the latter Act there must be a written application stating that a drain, watercloset, earthcloset, etc., is a nuisance or injurious to health; under Sec. 34 of the new Act the L.A. can take action on the report in writing of their Surveyor or Inspector of Nuisances.

Section 35 adds to the nuisances enumerated in the P.H.A., 1875. Any cistern used for the supply of water for domestic purposes so placed, constructed or kept as to render the water therein liable to contamination; any gutter, drain, shoot, stack-pipe, so defective as to cause dampness to a building; and any deposit of material in or on any building or land which shall cause dampness dangerous or injurious to health.

Section 36. Rain water pipes must not be used as soilpipes.

Section 37. Water or stack pipes must not be used as ventilating shafts.

Section 43. If any urinal or other sanitary convenience opening on any street is so placed or constructed as to be a nuisance or offensive to public decency, the Local Authority may require the owner to remove it within a reasonable time.

Section 45. On report of defective or suspicious drainage, tests may be applied (except the water test) subject to the consent of the owner or occupier or by Order of a Court of Summary Jurisdiction.

Section 46 provides for the filling up of old cesspools.

Section 47 allows the L.A. to provide and maintain public sanitary conveniences in or under streets.

Section 48. The L.A. must remove trade refuse if required by owners or occupiers so to do.

Section 49. Summary power to provide sinks and drains for buildings.

Section 50. The L.A. may provide an ambulance for use in cases of accidents, etc.

Section 51 gives power to the L.A. to declare a business to be an offensive trade, subject to the confirmation of the L.G.B.

PART IV.

Sections 52 to 68 relate to Infectious Disease.

Section 52. If any person knows he is suffering from an infectious disease he may not engage in any industrial occupation unless he can do so without risk of spreading infection. If the M.O.H. certifies to the L.A. that milk is suspected of conveying infection, the L.A. may require the dairyman to furnish a list of sources of his milk supply, for which he shall be paid sixpence for every 25 names.

Section 55. Infected clothes may not be sent to a public laundry unless previously disinfected.

Section 56. The L.A. is empowered to cleanse, purify or destroy any article in a dwellinghouse, which the M.O.H. certifies as being so filthy as to endanger the health of any person residing therein. Reasonable compensation must be paid in case of damage.

Section 57. No child suffering from an infectious disease or who has been exposed to infection shall after notice from the M.O.H. be sent to school without a certificate from him, and if the L.A. require it (Sect. 58) the principal of a school shall furnish (sixpence being paid for 25 names) a complete list of the names and addresses of the scholars in a school in connection with which there has been infectious disease.

Section 59. This section has for its object the prevention of the spread of infection by means of circulating libraries. Persons suffering from infectious diseases must not use any book from a public library.

Section 60. The L.A. may pay the expenses of persons in an Isolation Hospital.

Section 61 gives the L.A. power to provide temporary shelter or house accommodation for contacts.

Section 62. Under Sect. 126 of the P.H.A., 1875, a penalty is imposed upon anyone who, being in charge of any person suffering from an infectious disease, exposes such person in any street, public place, etc. This Section of the new Act includes any person who "causes or permits such sufferer to be so exposed."

Section 63 prohibits the conveyance of infected persons in public vehicles.

Section 64. If such a person has been conveyed, the driver must give notice to the M.O.H. and the L.A. must disinfect the vehicle free of charge, except in those cases in which the driver conveyed a person, knowing him to be infected.

Section 65. This Section provides for the compulsory removal (on the Order of a Justice) to an Isolation Hospital, of a person suffering from a dangerous infectious disease and who is in or on any house or premises where he cannot be effectually isolated

Section 66 provides for the cleansing and disinfection of any house or articles in a house certified by the M.O.H. or by a registered medical practitioner to require disinfection.

Compensation must be paid for any damage done during the process of disinfection or for articles destroyed.

Section 67 enables a L.A. to provide nurses to attend upon persons suffering from an infectious disease where there is

- (1) Want of accommodation.
- (2) Danger of infection, or
- (3) If removal would endanger the health of the patient.

PART V.

Sections 69 to 75 relate to Common Lodging Houses.

Section 69. Discretion is given to the L.A. in regard to the registration of Lodging House keepers.

Section 70. Obligation is placed on the C.L.H. keeper to provide for the proper control of his house.

Section 71. Deputy Lodging House keepers to be registered.

Section 72 gives the Court convicting a C.L.H. keeper power to cancel his registration.

Section 73. Under this Section unregistered C.L.H. keepers would be liable to a penalty.

Section 74 insists on the provision of proper sanitary conveniences and separate accommodation for the sexes.

Section 75. At a time not less than one month from the commencement of Part V. of this Act, the L.A. shall give notice of the fact to the keeper of every C.L.H. in their district.

1909.

City of Hereford.

SECOND ANNUAL REPORT

TO THE

EDUCATION COMMITTEE.

CITY OF HEREFORD.

SECOND ANNUAL REPORT to the Education Committee.

*To the Chairman and Members of the Education Committee.
City of Hereford.*

LADIES AND GENTLEMEN,

I have the honour to submit for your consideration a Report for the year 1909 on the Sanitary condition of the Elementary Schools of the town and the Medical Inspection of school children.

I have proceeded on the lines indicated by the Board of Education in Circular 596.

SANITARY CONDITION OF THE SCHOOLS.

(a) *“ General review of the hygienic conditions prevalent in the Schools in the area of the Local Education Authority in respect of such matters as surroundings, ventilation, lighting, warming, equipment and sanitation, including observations on the type and condition of sanitary conveniences and lavatories, water supply for washing and drinking purposes, the cleanliness of schoolrooms and cloakrooms, arrangements for drying children’s cloaks and boots, and the relation of the general arrangements of the school with the health of the children.”*

During the year I have submitted detailed reports in connection with the following schools:—St. Martin’s (Mixed and Infants’) and Scudamore Boys’, Girls’ and Infants’ Schools.

St. Martin’s School was erected in 1859, Scudamore Boys’ and Girls’ Schools in 1840 and Scudamore Infants’ School in 1896.

I hope to complete an inspection of a good many of the schools during 1910, when I will be able to give a general review of the hygienic conditions, etc.

I am inserting here the recommendations which I made in regard to the four schools inspected.

ST. MARTIN'S SCHOOL.

There is accommodation in the school for 180 children, and, the average number of children for the quarter ending April 30th was 222.

Most of the overcrowding is in rooms 1 and 2.

LIGHTING.—Additional lighting is needed in rooms 1 and 2.

VENTILATION.—Additional hopper windows flanged laterally should be provided and lower as well as upper panes should be made to open on this principle. By this means it could always be arranged for windows to be opened on the leeward side of the room and draughts would be prevented.

It would be an advantage if the roof were matchboarded across so as to allow of a uniform height of 14 to 18 feet.

HEATING.—The present fireplaces do not provide sufficient heat for the rooms. Heating could best be carried out by means of hot water or steam pipes in connection with radiators, and the system could also be connected to the cloakroom. The recommendation in connection with the ceiling if carried out would make the heating of the rooms easier.

DESKS.—Modern desks should be substituted for the present ones in room 1, and seats with backs provided; or the seats could be brought nearer to the present desks and fitted with backs. In consequence of the gallery in the infants' room being too small, the desks are crowded together; additional space should be provided.

TEACHERS' ROOM.—A private room for the teachers should be provided, and this should be large enough to allow of the medical inspection of school children.

CLOAKROOMS—GIRLS'.—Additional light and ventilation should be provided in the girls' cloakroom; the pegs should be one foot apart, numbered, and there should only be two rows against the wall; a central rack with pegs should be provided and a sufficient space left between adjacent rows.

BOYS'.—This room is much too small; it should either be extended or a new cloakroom built with more light and ventilation. The above remarks with regard to the pegs apply here.

INFANTS'.—This also is much too small; the present cloak-room should be extended to at least twice its present length. The above remarks with regard to the pegs apply here.

It is important that each child should have its own peg. A rainwater pipe should be provided to the roof.

PLAYGROUND.—Any depressions should be filled in with asphalt, and a shelter provided.

DRAINAGE.—The drainage should be disconnected from the public sewer by inserting an intercepting trap and disconnecting chamber at an approved point. Inspection chambers should be inserted where necessary, to facilitate cleansing without opening the ground, and a ventilating shaft erected at the head of the drainage system. The five rain-water pipes which are at present connected with the drains should be made to discharge over properly trapped gullies. Glazed stoneware gullies should be substituted for any obsolete traps. The drainage should be tested to ensure its being in a sanitary condition.

SANITARY CONVENIENCES.—Adams' multiple closets with separate traps or other approved system should be substituted for the present system, and Adams' automatic flushing tank provided. Water supply should be connected to the urinals, or a separate flushing cistern provided, and the backs should be tarred to a height of 3 feet, or properly glazed urinals or other provision made. Separate water-closet accommodation should be provided for the staff.

LAVATORIES.—Sufficient lavatory basins should be provided for the use of each department, and the present lavatory basin in the girls' cloakroom should be removed.

WATER SUPPLY.—A separate water tap should be provided apart from these in connection with the lavatory basins and a furnace and boiler provided in one of the existing outhouses for the supply of hot water for cleansing purposes.

HEAD MASTER'S HOUSE.—Disconnect rain-water pipe at rear of house from drain and make to discharge over properly trapped gully.

The under surface of the roof of the larder should be match-boarded. The opening under the eaves should be done away with and a ventilator $1\frac{1}{2}$ ft. by $1\frac{1}{2}$ ft. should be substituted for the existing one, with a perforated zinc covering.

At the time of my inspection of the school the plan of an additional class-room had been approved by the Board of Education. Before building was commenced the plans of proposed alterations and extensions in connection with the sanitary conveniences were laid before the Roads Committee. Previous to this a copy of my recommendations had been sent to the managers.

RECENT ADDITIONS.

In August the new class-room was completed; this is 19ft. 6ins. by 18ft. by 18ft. A deduction of 4ft. 6in. by 5ft. 6in. by 18ft. must be made for the space taken up by the fireplace and chimney.

The total floor space is 326 square feet, which allows accommodation for 32 children.

The new classroom is situated in the angle between the cloak-room, main classroom and infants' classroom and a portion of the girls' cloakroom is also included in the room. The entrance to the cloakroom from the playground is now through the new classroom; another entrance to the cloakroom from Hinton Road is available. An outside door to the classroom would be useful.

The window in the classroom faces east, and is provided with upper and lower hopper windows. The area of the window is 79 square feet.

The south window in the infants' room has been done away with, and also the east window in the main room.

Additional light has been provided in the infants' classroom by means of a new window on the north side, and a new glass panel partition between this room and classroom 2.

CLOAKROOM.—The cloakroom window and fireplace have been removed. The lighting is now through new roof-windows, which are not made to open; the ventilation is therefore deficient. A new double row of pegs has now been arranged along the north wall.

SANITARY CONVENIENCES.—Adams' pedestal trough closets (10 in number) with automatic flush have now been provided in connection with the mixed and infants' departments. There is now separate accommodation for the staff. New urinals formed of brick concreted over have been constructed; the boys' contains 12 lineal feet and the infant boys' 11 feet. They are connected with Adams' automatic flushing tank.

LAVATORY ACCOMMODATION.—Two new basins of white glazed ware have been provided in the girls' cloakroom.

DRAINAGE.—A new system of drainage has been provided in connection with the sanitary conveniences, with an intercepting trap and inspection chamber between the drain and sewer. Proper ventilation by means of inlet and outlet pipes has been provided.

SCUDAMORE BOYS' SCHOOL.

GENERAL REMARKS ON THE INTERIOR.

MAIN CLASSROOM.—The lighting and ventilation of this room are not satisfactory: the windows are too high up on the east and west sides (level of window-ledge 16 feet above floor level). As the shafts in connection with the Tobin's tubes have to pass the whole breadth of the classrooms on either side, the ventilation by this means cannot be efficient, and these ventilators do not take the place of open windows as inlets at a level of a few feet from the floor. A sufficient number of outlets have been provided in the roof; as the windows are so high up a fair percentage of the air must pass direct to these.

It is recommended by the Board of Education that not more than 60 scholars should be taught in one classroom; 124 scholars are taught in this room.

On account of the size of the room, heating is difficult; ventilation is also defective at times. It will be seen that the average afternoon temperature during the seven weeks ending August 13th was 70.7 Fahrenheit, and the temperature on August 12th was 82°. This cannot be considered satisfactory, as a temperature of 60 degrees should be aimed at. Comparisons with the Scudamore Infants' School show that where classrooms are efficiently ventilated, the temperature of the classrooms can be kept at a much lower point.

CLASSROOM 2.—There is insufficient light and ventilation in this room, and additional window ventilation might be provided with advantage in classroom 3.

The Head Master uses the means of ventilation in the various classrooms to the best advantage, and all doors and windows are kept open during play hours. During the cold weather draught is felt when casement windows are open; on this account part of the windows (the upper portion) should be made to open on the hopper principle in classrooms 2 and 3.

RECOMMENDATIONS.

INTERIOR.—The main classroom should be used as a central hall; the classrooms on the west side which are now used in connection with the Girls' School would take the place of this room.

If this scheme were carried out additional light and ventilation could be provided in the classrooms on either side of the central hall by means of additional windows between the classrooms and this room. Additional ventilation should also be provided in classrooms 2 and 3, and hopper windows constructed in accordance with details already mentioned.

AIR GRATINGS, ETC.—All air-inlets and air shafts should be cleaned out and repaired where necessary. It would be useful if the air-gratings in the classrooms were made to take in and out. Short Tobin's tubes do not need any inside coverings; they should be kept open.

CLOAKROOM 2.—Only two, or at most three rows of pegs along the walls should be used; the remaining ones should be removed. The broken and bent pegs should be replaced and each should be numbered. Pegs in adjoining rows should be alternate.

SCHOOL FURNITURE.—Some of the desks and seats which are unsuitable should be replaced and a cupboard provided for maps, etc.

EXTERIOR.

PLAYGROUNDS.—This should be laid in asphalt and the roadway which passes in front of the north part of the building should be properly laid and drained.

DRAINAGE, ETC.—The old "D" trap gully in front of the east porch should be removed and a properly trapped glazed stoneware gully inserted. I would also recommend that the whole of the drainage be tested, and that the roofs and guttering of the whole building should be examined,

LAVATORY BASINS.—Additional basins should be provided.

REFUSE DISPOSAL.—Refuse is best stored in proper sanitary bins, and these might be provided with advantage. There should be a separate bin for the Head Master's house.

HEAD MASTER'S HOUSE.—Additional window panes should be made to open in the living-rooms and bedrooms.

A bath and wash-basin should be provided ; there is a small room over the front door which could be used as a bath-room. The bricks of the second and third cellar floors should be removed and the floors properly laid in concrete.

A pipe should be laid to take away the surface water from the area in front of the scullery, and a portion of damp wall under the stairway cemented.

SCUDAMORE GIRLS' SCHOOL.

GENERAL REMARKS ON THE INTERIOR.

The two windows in the main classroom have recently been raised a foot, and the lighting and ventilation in this room is now fairly good.

CLASSROOMS 2 AND 3.—The light and ventilation could be improved by making windows in the walls between these rooms and the main boys' classroom if the latter were converted into a central hall. Skylight windows have recently been put in classroom 2, but there is still insufficient light. The second cloakroom is too small ; if the previous suggestion were carried out this cloakroom and the small cloakroom forming the porch and passage leading to the main room could be dispensed with. There would then be ample cloakroom accommodation in connection with the classrooms on the west and east side. The temperature of the rooms during the summer months indicates that ventilation is defective.

RECOMMENDATIONS.

INTERIOR.—Additional light and ventilation should be provided in classrooms 2 and 3 by means of windows in the walls separating these rooms from the main classroom on the boys' side. The upper part of the windows should be made to open inwards on the hopper principle, the sides being hinged.

AIR GRATINGS, ETC.—The same remarks apply as in connection with the Boys' School.

SCHOOL FURNITURE.—All desks which are obsolete and unsuitable should be replaced.

CLOAKROOM 2.—Only two, or at most three, rows of pegs along the walls should be used; the remaining ones should be removed. The broken and bent pegs should be replaced, and each peg should be numbered. Pegs in adjoining rows should be alternate.

EXTERIOR.

PLAYGROUND.—The same remarks apply as in the case of the Boys' in regard to the asphaltting of the playground. The gravel should be removed away from the air gratings on the west side.

DRAINAGE.—This should be properly tested.

LAVATORIES.—There are only two lavatory basins, and additional should be provided.

REFUSE DISPOSAL.—The same remarks apply as in connection with the Boys' School.

HEAD MISTRESS'S HOUSE.—Additional window panes should be made to open in the living-rooms and bedrooms. A bath and wash-basin should be provided. The floors of the two cellars should be properly laid in concrete, and a pipe inserted to take away the surface water from the area in front of the scullery.

SCUDAMORE INFANTS' SCHOOL.

The school was built in 1896.

RECOMMENDATIONS.

INTERIOR.—The upper part of the walls of the classrooms should be made smooth either by painting the surfaces or rendering them in plaster.

AIR GRATINGS, ETC.—All air inlets and air shafts should be cleaned out regularly and the canvas frames in the Tobin's tubes dispensed with.

SCHOOL FURNITURE.—The whole of the desks and seats should be removed, and dual desks with lockers, or desks of the Sheffield pattern should be substituted. Each child should have a separate pencil box and pencils.

P.S.—WARMING.—The table on page 137 shows that the heating of the classrooms is at times insufficient. More heat could be obtained if the backs of the grates were built forward with fire-brick.

PLAYGROUND.—A portion of the playground which is at present covered with gravel should be asphalted.

GENERAL REMARKS.

VENTILATION.—Windows supplemented by Tobin's tubes, Boyle's ventilators and louvred openings are used for purposes of ventilation in the schools. A card has been sent to each Head Teacher containing particulars in regard to ventilation and the various infectious diseases. The following has been suggested in regard to ventilation :—

(1.) Windows should be opened as much as possible. There is often a smaller sense of draught from widely opened windows than from slightly opened ones, especially if the outside air is not too cold.

(2.) If a strong wind is blowing and windows are placed in opposite sides of the room, it is preferable to open the windows on the leeward side, *i.e.*, the side opposite to which the wind is blowing. If the wind is not strong one or more windows may in addition be opened at the top on the windward side.

In warm weather with little or no wind the conditions are unfavourable to ventilation, and accordingly all ventilators and windows should be freely opened. In cold and especially in windy weather, the conditions are not favourable to ventilation, and the opening of windows may be prevented.

(3.) All air-gratings, Tobin's tubes, Sheringham's valves, etc., should be kept free from dust, paper, and other articles, and must not be covered by maps, books, flower pots, etc., which may hinder the free inflow of air.

(4.) Every door, window, and other ventilation opening should be opened widely during playtime.

Efficient ventilation can be maintained by rational means. Through ventilation can best be obtained by having windows on both sides of the classroom, the windows on one side opening on to a corridor or verandah. By having windows on each side of the room it can always be arranged to have the windows opened on the leeward side of the room, and so draughts are prevented.

Such an arrangement with the assembly hall at one end of the building instead of in the centre follows the Staffordshire model, this latter has the advantages in regard to light and ventilation over the central hall type.

WARMING.—In June charts were sent round to each school and the teachers were requested to record the temperature of each classroom twice daily, at 11 a.m. and 3 p.m.; during the winter months it has been arranged for the temperature to be taken at 9 a.m. and 3 p.m. daily. It is important that a classroom should be sufficiently heated before the scholars assemble in the morning. The temperature of the room should be kept about 60 degrees F. In the summer it should not be above 65 degrees F., and in the winter not below 55 degrees F.

The accompanying table shows the average morning and afternoon temperatures for the periods stated:—

TEMPERATURES IN DEGREES FAHRENHEIT.								
NAME OF SCHOOL	June 28 to Aug. 13.		October.		November.		December.	
	Morn.	Aft.	Morn	Aft.	Morn.	Aft.	Morn.	Att.
All Saints' (infants)	66.7	69.3	55.9	60.9	50	56.5	50	55.3
Blue Coat (Boys).....	*66.4	68.5	56.1	59.9	48.3	53	45.4	50.1
„ (Girls)	*68.9	70	57.3	63.8	49.3	60.5	49.9	60
Holmer (Mixed).....	66	68.2	55.9	59.3	47	53.7	43.6	50.2
„ (Infants).....	66.4	68.2	57.5	62.4	53.1	59.8	48.4	56.4
Roman Catholic (Mixed)	69	71.4	58.1	61.7	59	60.2	58.5	59.9
„ (Infants)	65.2	67.7	57.2	60.4	58.7	60.2	58.4	60.1
St. James' (Infants) ...	66	68.1	57.4	59	49.7	54.1	49.2	56.6
St. John's (Girls)	66.2	69.2	55.3	59.6	47.6	54.4	45.8	52.5
St. Martin's (Mixed and Infants).....	*65.8	69	54.3	59.4	47.2	54.3	45	53.3
St. Owen's (Boys)	65.1	67.6	56.9	59.2	51.5	56.2	47.2	52.3
St. Peter's (Girls)	66.8	69.1	56.1	60.1	52.7	57.7	50.5	56.8
„ (Infants) ...	67	69.4	56.6	61.2	53	59.3	50.1	55.8
Scudamore (Boys).....	67.6	70.6	55.9	60.2	52.4	58.9	51.8	55.4
„ (Girls)	66.8	70.3	55	60.5	49.3	57.5	47.2	55
„ (Infants)....	64.3	66.6	56.7	60.2	48.4	55	44.9	52.1
Tupsley (Mixed and In- fants).....	66.5	69	54.7	59.9	49.7	56.7	46.9	54.4

* Average Temperature June 28 to July 30.

The temperatures were taken at 11 a.m. and 3 p.m. from June 28 to Aug. 13; and at 9 a.m. and 3 p.m. during October, November and December.

During the summer months the morning temperatures of the classrooms were more satisfactory than the afternoon temperatures. It will be noticed that in ten of the schools the average afternoon temperature was 70 degrees or near this point, and in several of the schools where good means of ventilation was provided the temperature was nearer 65 degrees F.

During October a suitable temperature was maintained.

In November and December the temperatures of the classrooms at the time of assembling in the morning were in the majority of cases too low. The afternoon temperatures were on the whole better.

In some of the schools during the winter months the fires are probably not lighted early enough, and so there is not sufficient time for the rooms to become properly heated before the scholars assemble.

It is especially important that infants' classrooms should be properly heated. In some cases the low temperature may have been caused by too much window ventilation.

Heating by stoves on the whole cannot be considered satisfactory. In the majority of cases there is no special air inlet, and the pipe leading from the stove does not pass into a chimney. The air of the room soon becomes dry, and deleterious gases are formed; a dish of water should be placed on the top of the stove in order to keep the air moist.

The disadvantage of heating by a fire is that the children near the fire are apt to be overheated and those farthest away do not receive sufficient heat. The scholars should be changed at intervals; those at the back should sit in the front seats and *vice versa*.

There can be no doubt that the low pressure hot water system with radiators is the best method of heating large rooms. When once the system has been installed it will be found that heating by this method is more economical than by open fires.

CLEANLINESS.—In June, I sent out a list of instructions to the correspondent of each school for the use of caretakers in regard to cleansing of rooms, etc. The suggestions were as follows:—

“SWEEPING OF FLOORS.—All floors should be swept daily after school hours. Before sweeping, the windows and doors should be opened, and the floors sprinkled with sawdust. The

floors should then be damped with water containing disinfectant of a strength of two tablespoonfuls of disinfectant to a gallon of water, a watering-can being used for the purpose. Desks and other woodwork should be wiped with a damp cloth. The windows should be left open for a time after sweeping.

“ WASHING OF FLOORS, ETC.—It was suggested that floors, desks, window-sills and other woodwork should be scrubbed at least once a month, and that all ventilators should be cleaned out regularly. It would be an advantage if arrangements could be made for having floors scrubbed more frequently. .

“ SANITARY CONVENIENCES.—Urinals should be cleaned out with a stiff brush daily and flushed with water, and the water-closets kept clean. It should be arranged that automatic flushing tanks discharge their contents several times daily. Gullies are best kept free from smell by clearing out frequently and flushing with water.”

With the consent of the Education Committee disinfectant and sawdust are now provided free of cost. Sawdust is scattered over the floors each evening, and the windows opened before sweeping is commenced. The sawdust is either soaked in a weak solution of disinfectant or the floors are watered before sweeping with water containing a little disinfectant; dust is thus avoided. There can be no doubt that the scrubbing of floors and the free use of soap and water has both a cleansing and also a disinfecting effect, but where it is only customary for the classroom floors to be scrubbed about once in three weeks the sprinkling of water containing disinfectant on the floor referred to above cannot but have a beneficial effect.

SANITARY CONVENIENCES, ETC.

Reference has been made to the new conveniences and system of drainage recently provided in connection with St. Martin's School.

TUPSLEY SCHOOL.—Alterations were made in September in connection with the sewage tanks and filter bed.

The sewage matter previously passed through a pipe into a tank situated at the north-east corner of the garden adjoining the playground. The pipe passed into the tank near the surface, and there was another pipe leading from the lower part of this tank into a second tank, the contents of which flowed on to a filter bed containing several feet of clinker. The sewage passed through a rough screen before entering the second tank, but this did not

prevent solid matter at times reaching the second tank and filter bed. Difficulty was sometimes experienced in connection with blocking of the pipes and clogging of the filter bed.

A better fall has now been provided for the sewage matter from the conveniences to the tanks. The pipe entering the first tank leads downwards a few feet and similarly the outlet pipe opens a few feet below the surface and passes upward to discharge its contents into the second tank ; the outlet pipe from the second tank passes upwards to discharge its contents on to the filter bed, which has been renewed and now contains five feet of clinker, the pieces being about the size of walnuts.

On account of the arrangement of the pipes, the sewage now remains in the tanks for a sufficient time to allow of the bulk of the solid matter being broken up by the action of anaërobic bacteria and so solid matter does not now pass on to the filter bed as before. The soil being clay, the effluent from the filter bed does not pass readily away.

BLUE COAT SCHOOL.—Alterations in connection with the classrooms, etc., which are necessary in connection with this school are, I understand, shortly to be carried out. The plans have already been passed by the Board of Education.

ORGANISATION AND SUPERVISION OF MEDICAL INSPECTION.

(b) General description of the arrangements which have been made for the co-relation of the School Medical Service with the Public Health Service and for the organisation and supervision of medical inspection, including :—

- (i.) *A statement of the extent (if any) to which the Board's Schedule of Medical Inspection has not been followed, and the reasons for such departure ;*
- (ii.) *A statement showing the assistance given to the School Medical Officer and his assistants by nurses, managers of schools, teachers, attendance officers or other persons ;*
- (iii.) *A statement showing the methods adopted for securing the presence of parents at the inspection, and their co-operation in the subsequent treatment of defects, together with a review of the effect of such methods ;*
- (iv.) *The extent to which disturbance of school arrangements was involved by the inspection (Art. 45 (b) and 44 (h) of Code of 1908).*

The co-relation of the School Medical Service with the Public Health Service is very complete, and is facilitated on account of my position as School Doctor as well as Medical Officer of Health.

(i.) SCHEDULE OF EXAMINATION.—The Board's Schedule which accompanied Circular 582 has been followed throughout, and is reproduced on page 142.

(ii.) ASSISTANCE GIVEN TO SCHOOL MEDICAL OFFICER.—Reference is made in a later part of this Report in regard to the assistance given by nurses in connection with treatment. The teachers have filled up the name and address and age of the scholar, and in addition the standard, and particulars in regard to attendance. The notices to parents were also sent out by them, and they also assisted in the undressing of the children and the weighing and measuring.

(iii.) PRESENCE OF PARENTS.—A notice card was sent out previous to the examination, inviting both or either of the parents to be present at the examination. In 363 cases, 36 per cent., one of the parents, usually the mother, was present, and in 48 instances, 4 per cent., other relation or friend. In a good many cases useful particulars were obtained in regard to the previous health of the children, family history, etc.

It is sometimes easier to impress upon a parent by a few minutes' conversation the importance of having some defect remedied than by sending a communication by post.

As in a certain percentage of cases parents are not present at the examination, the following has been printed on one side of the card which is sent out :—

“(1) If you are not able to be present at the examination, please say whether your child has had Measles, Whooping Cough, Chicken Pox, Scarlet Fever, Diphtheria, or any other illness such as Rheumatic Fever, and how long ago.

“(2) Has your child been vaccinated ?

“(3) Is there any Consumption in the family ? ”

A space is left at the bottom of the card for filling up the particulars.

SCHEDULE OF MEDICAL INSPECTION.

- I. Name Date of Birth
 Address School

II.—Personal History :

(a) Previous Illnesses of Child (before admission).

Measles.	Whooping Cough.	Chicken- pox.	Scarlet Fever.	Diph- theria.	Other Illnesses.
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(b) Family Medical History (if exceptional).

I II III IV				I II III IV			
1. Date of Inspection				13. Ear disease			
2. Standard & Regu- larity of Attendance				14. Hearing			
3. Age of Child				15. Speech			
4. Clothing and foot- gear				16. Mental condi- tion			
[III.— <i>General Condi- tions.</i>]				[V.— <i>Disease or De- formity.</i>			
5. Height				17. Heart & circula- tion			
6. Weight				18. Lungs			
7. Nutrition				19. Nervous system			
8. Cleanliness & con- dition of skin.				20. Tuberculosis			
Head				21. Rickets			
Body				22. Deformities, Spinal Disease, &c.			
[IV.— <i>Special Condi- tions.</i>				23. Infectious or con- tagious disease			
9. Teeth				24. Other disease or defect			
10. Nose and throat							
Tonsils							
Adenoids							
Submax. and cervical glands							
11. External eye dis- ease							
12. Vision							
R.				Medical Officer's initials			
L.							

General observations.

Directions to Parent or Teacher.

(iv.) **EXTENT OF DISTURBANCE OF SCHOOL ARRANGEMENTS.** — In ten cases the inspection was carried out in one of the classrooms, in four cases in the teacher's room (in one case the room belonging to an infants' school was also used for the inspection of the scholars of a mixed school adjoining), and in three instances a private sitting room which was kindly placed at my disposal was used. In one case the private sitting-room was used for examining scholars belonging to the mixed as well as the infants' departments.

The use of the classroom meant, in the majority of cases, crowding the children into the remaining rooms, where there was only sufficient accommodation for the usual number present. I was asked in several cases to make the examination while a class was being held in the room, but on account of the perfect quiet necessary for the examination of the chest and hearing this could not be arranged. Even with a classroom available, there is frequent interruption on account of parents coming in and out, as in the majority of cases they have to sit in the same room where the child is being examined. The notices were so arranged that the parents should come at intervals of six to ten minutes, but as in some cases they were either too early or too late several came at the same time.

Where other rooms than the classrooms were used the conditions were better, although on account of the teachers' rooms not being long enough, use had to be made of the outside passage to obtain the requisite distance of 20ft. necessary for testing the eyesight.

Where the room for inspection is near to a central hall, there is sometimes interruption caused by the children marching in and out at the play hour.

The best arrangement for carrying out the medical inspection efficiently would be to have a couple of rooms away from the main building and playground, but connected to the school building by a corridor. One room could be used as a waiting-room for the parents and the other for purposes of inspection, the latter to be well lighted and over 20ft. in one direction, and I hope this arrangement will be carried out in connection with any new school erected in this town or with any School in connection with which any alterations are contemplated.

EXTENT AND SCOPE OF THE MEDICAL INSPECTION.

(c) *General statement of the extent and scope of the medical inspection, carried out during the year, including :—*

(i.) *The number of visits paid to schools and departments ;*

- (ii.) *Principle on which children have been selected for inspection (at entrance, before leaving, by selection according to ages or otherwise) ;*
- (iii.) *The number of children inspected (classified for age at date of inspection and for sex).*
- (iv.) *The number of children referred for subsequent or further examination ;*
- (v.) *The number of children in respect of whom directions were given for treatment of defects, including a classified statement of such defects ;*
- (vi.) *The average time per head occupied by inspection.*

(i.) During the year I paid eighty visits to schools and departments in connection with the medical inspection. The schools are visited twice a year.

(ii.) The following children were examined :—

(a.) All children five years and upwards at entrance.

(b.) All children twelve years of age and upwards who were likely to leave and had not previously been medically inspected.

At first all children at entrance in the infants' schools were examined, but this was later changed to the age of five years, this being the age at which the majority of children commence school life, and in some towns no children are admitted before this age. There can be no doubt that children at the age of three and four years at school are being exposed to unnecessary risks of contracting infectious disease, more particularly Measles and Whooping Cough at a period of life when these diseases cause a high mortality.

It is proposed in the future to examine in infants' schools all children on entrance of five years of age and upwards, and also all other children of five years of age who have not previously been examined.

(iii.) The number of children inspected was as follows :—

<i>Ages.</i>	<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
3	7	3	10
4	6	8	14
5	52	67	119
6	28	47	75
7	55	61	116
8	62	64	126
9	41	34	75
10	21	17	38
11	15	38	53
12	93	121	214
13	66	69	135
14	8	13	21
15	1	6	7
TOTAL . . .	455	548	1003

The following is a summary of the above :—

<i>Age periods.</i>	<i>Boys.</i>	<i>Per-centage.</i>	<i>Girls.</i>	<i>Per-centage.</i>	<i>Both sexes.</i>	<i>Per-centage.</i>
3-6	93	20.4	125	22.8	218	21.7
7-11	194	42.6	214	39.05	408	40.6
12-15	168	36.9	209	38.1	377	37.5
TOTAL . .	455	45.4	548	54.6	1003	100.0

The largest number of children were examined at ages seven to eleven. This includes children on admission to departments other than infants'.

The following is a list of children examined in each school :—

<i>School.</i>	<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
All Saints' (Infants')	21	22	43
Blue Coat (Boys')	35	—	35
„ (Girls')	—	67	67
Holmer (Mixed)	9	13	22
„ (Infants')	17	15	32
Roman Catholic (Mixed)	45	47	92
„ (Infants) ...	5	12	17
Seudamore (Boys')	63	—	63
„ (Girls')	—	63	63
„ (Infants')	26	27	53
St. James' (Infants')	12	20	32
St. John's (Girls')	—	61	61
St. Martin's (Mixed & Infants')	23	30	53
St. Owen's (Boys')	146	—	146
St. Peter's (Girls')	—	117	117
„ (Infants')	19	21	40
Tupsley (Mixed & Infants') ..	34	33	67
TOTAL	455	548	1003

(iv.) Children in connection with whom direction had been given in regard to treatment of defects were deferred for further examination.

(v.) The following list shows the number of defects in connection with which instructions were given in regard to treatment :—

Defective vision	74
Eye disease	15
Enlarged tonsils and adenoids	171
Other defects of nose and throat. ..	12
Ear discharge and deafness	104
Teeth crowded together or displaced..	19
Bronchitis	8
Other respiratory disease or defect ..	10
Skin disease	22
Heart disease	4
Anæmia	10
Rupture	4
Chorea	2
Tuberculosis	7
Curvature of spine	7
Heads verminous and dirty.. ..	71
Body dirty	6
Other	10
TOTAL	556

Leaflets on the “ Preservation of the Teeth ” were sent to each school, and a child from each household received one to take home.

During the year 274 letters were sent in regard to defects.

(vi.) The average time taken for each inspection, including weighing and measuring, was ten minutes.

GENERAL REVIEW OF THE RESULTS OF MEDICAL INSPECTION.

(d) *General review of the facts disclosed by medical inspection, under the headings contained in the Schedule to Circular 582, including tables showing the height and weight of children inspected (according to age and date of inspection and sex).*

HEIGHTS.

<i>City of Hereford.</i>				A		B		C	
<i>Years of age</i>	<i>No. at each age</i>	<i>Inches</i>	<i>Centi-metres</i>	<i>No.</i>	<i>Inches</i>	<i>No.</i>	<i>Inches</i>	<i>No.</i>	<i>Inches</i>
Boys									
3	6	37.2	94.5	134	36.4	191	36.2	40	36.9
4	6	40.5	102.9	293	38.4	259	38.6	60	38.8
5	52	40.8	103.6	334	40.9	297	40.6	112	41.5
6	28	43.0	109.2	172	43.0	86	42.2	92	41.0
7	55	45.9	116.6	148	45.6	58	44.3	35	44.4
8	62	47.9	121.7	183	46.7	38	44.8	6	44.9
9	41	48.3	122.7	126	49.6	23	47.9	—	—
10	21	51.9	131.8	120	50.6	40	50.6	1	52.5
11	15	53.7	136.4	90	53.0	37	51.9	1	61.5
12	93	54.4	138.2	126	54.4	7	53.4	63	55.2
13	66	55.5	141	763	56.7	4	54.7	106	57.6
14	8	57.8	146.8	78	59.3	—	—	36	60.6
15	1	67.7	171.9	10	57.7	—	—	13	63.1
GIRLS									
3	3	35.7	90.7	93	36.0	193	35.9	27	36.0
4	8	39.1	99.3	268	38.2	242	38.2	56	38.4
5	66	40.4	102.6	318	40.6	320	40.1	94	46.0
6	46	41.1	104.4	233	42.6	115	42.0	97	42.2
7	61	45.7	116.1	174	44.8	66	44.1	29	44.2
8	64	46.7	118.6	150	47.4	28	46.9	7	45.7
9	34	49.1	124.7	135	49.1	24	48.9	4	50.6
10	17	50.3	127.7	115	51.3	36	49.5	—	—
11	38	52.2	132.6	131	54.3	37	51.6	7	56.1
12	121	55.6	141.2	118	55.1	5	55.9	67	55.6
13	69	57.5	146.1	696	57.2	1	54.7	79	56.6
14	13	60.0	152.2	59	59.3	—	—	25	59.5
15	6	59.7	148.2	—	—	—	—	8	60.3

WEIGHTS.

<i>City of Hereford.</i>					A	B		C	
<i>Years of age</i>	<i>No. at each age</i>	<i>Pounds</i>	<i>Kilo-grams.</i>	<i>No.</i>	<i>Pounds</i>	<i>No.</i>	<i>Pounds</i>	<i>No.</i>	<i>Pounds</i>
Boys									
3	6	34.2	15.5	134	32.2	191	33.1	40	32.2
4	6	37.7	17.1	293	34.4	259	36.5	60	35.0
5	52	38.0	17.2	334	36.2	297	39.2	112	38.7
6	28	42.0	19.0	172	41.0	86	42.3	92	41.6
7	55	48.2	21.9	148	44.8	58	46.9	35	44.1
8	62	51.3	23.3	183	48.3	38	48.9	6	44.8
9	41	54.7	24.8	126	54.0	23	54.9	—	—
10	21	64.1	29.1	120	58.0	40	59.8	1	60.0
11	15	68.3	31.0	90	64.2	37	65.2	1	79.0
12	93	70.5	32.0	126	68.5	7	67.7	63	71.0
13	66	73.7	33.4	763	75.4	4	74.8	106	77.8
14	8	80.2	36.3	78	85.3	—	—	36	85.6
15	1	132.0	59.9	10	80.3	—	—	13	103.4
GIRLS									
3	3	31.2	14.2	93	31.5	193	31.7	27	31.9
4	8	36.0	16.3	268	34.0	242	35.8	56	34.6
5	66	37.4	17.0	318	37.0	320	40.3	94	37.7
6	46	41.1	18.6	233	40.1	115	43.1	97	39.5
7	61	45.7	20.7	174	43.9	66	46.2	29	43.5
8	64	47.8	21.7	150	50.0	28	51.8	7	46.0
9	34	52.3	23.7	135	53.6	24	55.2	4	57.9
10	17	60.1	27.3	115	60.0	36	60.5	—	—
11	38	63.2	28.7	131	63.7	37	66.8	7	71.6
12	121	74.9	34.0	118	72.3	5	74.9	67	74.9
13	69	82.0	37.2	696	79.6	1	84.9	79	80.5
14	13	92.8	42.1	59	88.4	—	—	25	88.5
15	6	91.5	41.4	—	—	—	—	8	103.5

The above tables show the heights and weights of the Hereford children, and comparisons are made in regard to children examined during 1908 in the elementary schools of (A) a large watering-place, (B) a cotton manufacturing town, and (C) a county town similarly situated to Hereford. In regard to both heights and weights the Hereford figures compare favourably with the figures in connection with the other towns referred to.

This year I have not made comparisons with the figures of the Anthropometric Committee compiled in 1883. The heights in common with other towns where comparisons have been made compare favourably with the Anthropometric Committee's figures, but neither the weights in connection with this town nor other towns come up to the standard figures.

REGULARITY OF ATTENDANCE.

This was stated by the teachers in respect to 429 girls and 453 boys.

The particulars are as follows :—

<i>Attendance.</i>	<i>Boys.</i>		<i>Girls.</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Very fair.....	24	5.5	38	8.3
Fair	5	1.1	14	3.0
Poor	6	1.4	4	.8
Bad or Irregular	—	—	6	1.3

It will be seen that in the majority of cases the attendance was good, *viz.*, in regard to 92 per cent. of the boys and 86.6 per cent of the girls.

In the infants' departments more particularly it is important that children should not attend school when indisposed. Cases have occurred where children in the early stages of an infectious disease have attended school during the first day or two of the disease in order not to lose their chance of obtaining a prize for good attendance. Whilst it is important that children should be encouraged in every way never to be absent or late, a careful look-out should be kept for any signs of infectious disease, and children with suspicious signs should be immediately sent home.

During the year no irregularity in attendance was caused (with the exception of St. Martin's School) through the outbreak of any infectious disease.

Particulars in regard to Average Number on Register and Average Attendance during the Year ending January 31st, 1910, are given in the following Table :—

Name of School.	Average No. on Register.	Average Attendance.
All Saints (Infants)	227	197.7
Blue Coat (Boys)	174	158
Do. (Girls)	161	138
Holmer (Mixed)	242	233.9
„ (Infants)	211	179.1
Roman Catholic (Mixed)	238.8	227
„ (Infants)	103	93
St. James (Infants)	205	173
St. Martin's (Mixed and Infants) ..	211.6	202.5
St. Peter's (Girls)	262	247
St. Peter's (Infants)	212.4	186
St. Owen's (Boys)	291	276.7
St. John the Baptist (Girls)	103.4	96.8
Seudamore (Boys)	234.3	228.9
„ (Girls)	178	170
„ (Infants)	212.7	199
Tupsley (Mixed and Infants)	170.7	142
	3437.9	3148.6

CLOTHING AND FOOTGEAR.

The following particulars were ascertained in the case of the 455 boys and 548 girls examined :—

CLOTHING.

Condition.	Boys.		Girls.	
	Number	%	Number	%
Very fair.....	50	10.9	37	7.1
Fair	21	4.6	17	3.1
Poor	4	.8	2	.3
Ragged	10	2.1	3	.5

FOOTGEAR.

Condition.	Boys.		Girls.	
	Number	%	Number	%
Very fair.....	42	9.2	30	5.4
Fair	22	4.8	16	2.9
Poor	6	1.2	6	1.0
Bad soles	15	3.2	16	2.9

It will be seen that on the whole the clothing and footgear were satisfactory, although in a small proportion of cases this was not so, and some children were wearing old boots with holes.

One sometimes finds some of the younger children with too much clothing on the upper part of the body, while the arms and legs are bare.

CLEANLINESS.

The following conditions were found :—

<i>Condition.</i>	<i>Boys.</i>		<i>Girls.</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Heads—				
Dirty and many nits . .	5	1.1	66	12.0
Rather dirty, some nits	10	2.2	48	8.0
Fairly clean	17	3.7	8	1.4
Bodies—				
Dirty	2	.4	4	.7
Rather dirty	9	1.9	8	1.4
Fairly clean	25	5.5	32	5.8

It will be seen from the above figures that a verminous condition of the hair was more common in girls than boys; further remarks in reference to this matter are made later.

PREVIOUS INFECTIOUS DISEASE, ETC.

Particulars were ascertained in 918 cases: the particulars are as follows :—

<i>Previous Infectious Disease, etc.</i>	<i>Boys.</i>		<i>Girls.</i>	
	<i>Number.</i>	<i>Percentage</i>	<i>Number.</i>	<i>Percentage.</i>
Measles	301	73	394	77
Whooping Cough .	163	39	240	47
Chickenpox	101	24	146	28
Mumps	5	1	12	2
Scarlet Fever . . .	33	8	57	11
Diphtheria	13	3	18	3
Influenza	10	2	5	.9
Bronchitis	18	4	20	3
Pneumonia	11	2	19	3
Pleurisy	3	.7	3	.5
Rheumatism	3	.7	3	.5
Tonsilitis	—	—	3	.5

The last six diseases were not specified, and so the information given will only represent in part what other illnesses had occurred.

It will be seen that the larger number of children had previously suffered from Measles, and over one-third from Whooping Cough. Girls suffered a higher incidence than boys in regard to all the infectious diseases with the exception of Diphtheria.

NUTRITION.

Out of 1,003 children examined I found 11 per cent. below normal, and 1.19 per cent. in which the nutrition was bad. The percentage for boys was 9.9, and for girls 11.1 below normal, and in the case of bad nutrition 1.3 per cent. for boys and 1.09 per cent. for girls.

In the Schedule issued by the Board of Education accompanying Circular 582 there is the following note in connection with this defect :—

“General nutrition as distinct from muscular development or physique as such, state whether good, normal, below normal or bad. Under-nourishment is the point to determine. Appearance of skin and hair, expression, and redness or pallor of mucous membrane are among the indications.”

In the Annual Report for 1908 of the Chief Medical Officer of the Board it is suggested that in making a statement in regard to normal nutrition the picture of a reasonably well-nourished child should be kept before the mind.

TEETH.

The result of the examination of the teeth of 1,003 children is shown in the following table :—

<i>Number examined.</i>	<i>Number of carious teeth.</i>	<i>Percentage.</i>
31	0	3.1
24	0	1.3
46	2	4.5
60	3	5.9
155	4	15.4
157	5	15.6
423	6-10	42.1
107	11 and over	10.6

It will be seen that the majority of children examined had over four decayed teeth, and that over half had six or more

decayed teeth. In only 3.1 per cent. were there no decayed teeth, and this includes the examination of 93 children (9 per cent.) under the age of seven years.

Where there are a number of carious teeth there is almost invariably associated some inflammation around the roots with the formation in some cases of small abscesses.

There can be no doubt that the general vitality of the body is lowered by the existence of foul and septic conditions of the mouth, and in consequence a child with such conditions is more liable to contract disease than a healthy child. A certain amount of enlargement of the glands of the neck is usually associated with the presence of defective teeth.

In a certain proportion of cases the teeth were too crowded together, and parents were advised to have one or two teeth removed in such cases. When the teeth are too close together decay is more apt to occur.

In a few cases one or more teeth had been stopped.

There appears to be an increasing number of children who use a tooth-brush, but considerable improvement is still needed in this direction.

In the following table particulars in regard to other diseases and defects are given.

<i>Disease or Defect.</i>	<i>No. of Boys affected.</i>		<i>No. of Girls affected.</i>		<i>Total.</i>	
		<i>Per-centage</i>		<i>Per-centage</i>	<i>No.</i>	<i>Per-centage</i>
Eye disease—						
Blepharitis	7	1.5	7	1.2	14	1.3
Conjunctivitis	1	.21	—	—	1	.09
Corneal Opacities.....	1	.21	1	.18	2	.19
Other.....	1	.21	1	.18	2	.19
Defective vision	29	6.3	45	8.2	74	7.3
Squint	15	3.3	19	3.4	34	3.3
Ptosis	1	.21	1	.18	2	.19
Ear disease.....	13	2.8	11	2.0	24	2.3
Defective hearing	41	9.0	60	10.9	101	10.0
Enlarged tonsils—						
(1) Marked	46	10.1	70	12.7	116	11.5
(2) Moderate	85	18.7	83	15.1	168	16.7
Adenoids.....	21	4.6	34	6.2	55	5.48
Other diseases of Nose and Throat	5	1.1	7	1.2	12	1.1
Enlarged Glands ...	113	24.8	139	25.3	252	25.1
Thyroid Gland enlargement	2	.43	8	1.4	10	.99
Heart disease—						
(1) Mitral	2	.43	2	.36	4	.38
(2) Functional	6	1.3	13	2.3	19	1.8
Anæmia	6	1.3	35	6.3	41	4.0
Bronchitis.....	8	1.7	8	1.4	16	1.5
Laryngitis.....	1	.21	—	—	1	.09
Phthisis—						
(1) Suspicious	—	—	5	.91	5	.49
(2) Doubtful	1	.21	4	.7	5	.49
Tubercular Glands ..	3	.65	1	.18	4	.38
Other forms of Tuberculosis	—	—	1	.18	1	.09
Deficient Chest expansion	11	2.4	8	1.4	19	1.8
Epilepsy	2	.43	2	.36	4	.38
Chorea.....	—	—	2	.36	2	.19
Speech defects—						
(1) Stammering or Stuttering	5	1.1	3	.54	8	.79
(2) Lisp	9	1.96	8	1.4	17	1.6
(3) Nasal	9	1.96	7	1.2	16	1.5
(4) Other	1	.21	1	.18	2	.19
Mental defects—						
(1) Dulness	12	2.6	12	2.1	24	2.3
(2) Deficiency	5	1.1	4	.72	9	.89
Skin disease—						
(1) Ringworm	4	.86	5	.91	9	.89
(2) Scabies	2	.43	—	—	2	.19
(3) Impetigo	—	—	4	.72	4	.38
(4) Eczema	2	.43	2	.36	4	.38
(5) Other	2	.43	2	.31	4	.38
Rickets	9	1.96	6	1.08	15	1.49
Deformities—						
(1) Curvature of Spine	4	.86	3	.54	7	.69
(2) Talipes	2	.43	—	—	2	.19
(3) Other	1	.21	1	.18	2	.19
Hernia.....	4	.86	—	—	4	.38
Other.....	3	.65	4	.72	7	.69

EYES.

DEFECTIVE VISION.—Altogether the eyesight of 815 children was tested, 368 boys and 447 girls. This includes the examination of 18 boys and 29 girls under the age of 7 years; of these 3 boys and 2 girls appeared to have defective eyesight, but at this age, on account of difficulty in some cases in reading the letters, the results are not reliable. Particulars in regard to the defects at each age are given in the tables on the following page. The following is a summary :—

BOYS.

<i>Age-period in years.</i>	<i>Number examined.</i>	<i>Defects.</i>					<i>Total.</i>	<i>Per- centage.</i>
		$\frac{6}{12}$	$\frac{6}{18}$	$\frac{6}{24}$	$\frac{6}{36}$	$\frac{6}{60}$		
7-11	182	8	—	—	2	—	10	5
12-15	168	6	4	4	1	1	16	9
TOTAL	350	14	4	4	3	1	26	7.4

GIRLS.

<i>Age-period. in years.</i>	<i>Number examined.</i>	<i>Defects.</i>					<i>Total</i>	<i>Per- centage.</i>
		$\frac{6}{12}$	$\frac{6}{18}$	$\frac{6}{24}$	$\frac{6}{36}$	$\frac{6}{60}$		
7-11	209	19	4	*2	—	1	26	12.4
12-15	209	8	5	—	3	1	17	8.1
TOTAL	418	27	9	2	3	2	43	10.2

* Left eye only—blind in right eye.

It has been found that in the majority of cases vision is equal in both eyes. Out of 2,524 children examined at Brighton during 1908, it was found that in 84% the vision was equal in each eye.

EYESIGHT.

Boys.

<i>Ages.</i>	<i>Number examined.</i>	<i>Defect.</i>					<i>Total</i>
		$\frac{6}{12}$	$\frac{6}{18}$	$\frac{6}{24}$	$\frac{6}{36}$	$\frac{6}{60}$	
3	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—
5	4	—	—	—	—	—	—
6	14	3	—	—	—	—	3
7	45	1	—	—	—	—	1
8	61	6	—	—	—	—	6
9	40	1	—	—	1	—	2
10	21	—	—	—	1	—	1
11	15	—	—	—	—	—	—
12	93	3	2	1	1	1	8
13	66	2	2	3	—	—	7
14	8	1	—	—	—	—	1
15	1	—	—	—	—	—	—
TOTAL	368	17	4	4	3	1	29

GIRLS.

<i>Ages.</i>	<i>Number examined.</i>	<i>Defect.</i>					<i>Total</i>
		$\frac{6}{12}$	$\frac{6}{18}$	$\frac{6}{24}$	$\frac{6}{36}$	$\frac{6}{60}$	
3	—	—	—	—	—	—	—
4	—	—	—	—	—	—	—
5	3	—	—	—	—	—	—
6	26	1	1	—	—	—	2
7	57	7	1	—	—	—	8
8	63	4	2	*1	—	—	7
9	35	1	—	—	—	1	2
10	17	3	—	1	—	—	4
11	37	4	1	—	—	—	5
12	120	6	†3	—	1	1	11
13	70	1	2	—	2	—	5
14	13	1	—	—	—	—	1
15	6	—	—	—	—	—	—
TOTAL ..	447	28	10	2	3	2	45

* Left eye only—blind in right eye. † $\frac{6}{36}$ in right eye.

The vision for each eye separately is not shown in the tables. These particulars will be given next year.

Counting defects of $\frac{6}{18}$ and over it will be seen that the percentage in the case of boys was 3·4, and in the case of girls 3·8 ; in connection with both sexes 3·6.

SQUINT.—This defect was present in 15 boys, 4%, and 19 girls, the percentage being the same.

PTOSIS.—This was present in two cases—a boy seven years and a girl aged twelve.

In the case of the boy an operation had been performed on the upper lid, and the condition had been remedied considerably.

EXTERNAL EYE DISEASE.

<i>Defect.</i>	<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
Blepharitis	7	7	14
Conjunctivitis	1	—	1
Wound of outer canthus, left eye	1	—	1
TOTAL	9	7	16

CORNEAL OPACITIES.—In addition to conjunctivitis, a boy aged twelve years had two corneal opacities on the left eye, and on this account the eyesight was rather poor. I gave instructions that he should not attend school.

In the case of a girl aged eight years, there was no sight in the right eye on account of old inflammation of the cornea, and another girl aged twelve years could see very little in the left eye on account of old inflammatory trouble.

NOSE AND THROAT.

ENLARGED TONSILS.—This condition was found in 301 children, 30 per cent. ; the enlargement was marked in 116 cases, 11·5 per cent., and moderate in 168, 16 per cent.

Particulars in regard to age and sex distribution are given in the tables on page 159.

The following is a summary :—

BOYS.

Age period.	Number examined	Marked enlargement.		Moderate Enlargement.		All cases.	
		Number	%	Number	%	Number	%
3- 6	93	9	9.7	17	18.2	26	27.9
7-11	194	23	11.8	40	20.6	63	32.4
12-15	168	14	8.3	28	16.6	42	25
TOTAL	455	46	10.1	85	18.7	131	28.7

GIRLS.

Age period.	Number examined	Marked enlargement.		Moderate enlargement.		All cases.	
		Number	%	Number	%	Number	%
3- 6	125	16	12.8	18	14.4	34	27.2
7-11	214	32	14.95	28	13.08	60	28.03
12-15	209	22	10.5	37	17.7	59	28.2
TOTAL	548	70	12.7	83	15.1	153	27.9

Surgical treatment is indicated in all cases of marked enlargement, and would probably be required in a certain proportion of cases of moderate enlargement.

Children with enlarged tonsils are liable to suffer from sore throat, and such children will be more liable to contract diphtheria or scarlet fever, in which the disease usually commences in the throat. Children with enlarged tonsils who have recovered from these diseases are much more liable to retain infection in the throat in comparison with boys and girls with normal tonsils.

OTHER AFFECTIONS OF THE TONSILS.—In the case of two boys aged 7 and 10 years, and six girls aged 5, 6, 11, 12, 13 and 13 years, there was acute inflammation of the tonsils, in one instance accompanied by ulceration. Two boys aged 7 and 10 years were found to be suffering from follicular tonsilitis.

The children in each case were sent home immediately, and instructions were given in regard to obtaining medical advice.

Boys.

<i>Ages.</i>	<i>Number examined</i>	<i>Enlarged tonsils.</i>		<i>Ad- noids.</i>	<i>Ear discharge</i>	<i>Deaf- ness.</i>	<i>Enlarged Glands.</i>
		<i>Much</i>	<i>Moderate</i>				
3	7	—	2	—	—	—	—
4	6	—	—	—	—	—	—
5	52	2	13	1	1	2	12
6	28	7	2	4	—	1	10
7	55	9	13	5	2	8	26
8	62	5	14	3	5	7	14
9	41	6	8	3	—	3	11
10	21	2	3	1	—	4	3
11	15	1	2	—	—	1	3
12	93	7	12	1	2	6	14
13	66	7	14	3	3	9	19
14	8	—	2	—	—	—	1
15	1	—	—	—	—	—	—
TOTAL	455	46	85	21	13	41	113

GIRLS.

<i>Ages.</i>	<i>Number examined</i>	<i>Enlarged tonsils.</i>		<i>Ad- noids.</i>	<i>Ear discharge</i>	<i>Deaf- ness.</i>	<i>Enlarged glands.</i>
		<i>Much.</i>	<i>Moderate</i>				
3	3	—	—	—	—	—	—
4	8	—	2	1	—	—	1
5	67	10	10	3	2	6	16
6	47	6	6	2	—	4	13
7	61	10	12	7	—	8	17
8	64	8	8	3	2	5	14
9	34	7	1	4	—	3	13
10	17	4	1	2	—	1	5
11	38	3	6	1	2	4	11
12	121	14	27	8	1	14	30
13	69	7	8	1	4	12	15
14	13	—	2	1	—	3	2
15	6	1	—	1	—	—	2
TOTAL	548	70	83	34	11	60	139

ADENOIDS.—In 55 cases, 5.48 per cent., adenoids were present. Particulars are given in the following table :—

Age period.	Boys.			GIRLS.		
	Number examined	Defect.		Number examined.	Defect.	
		Number	Percentage		Number	Percentage
3- 6	93	5	5.5	125	6	4.8
7-11	194	12	6.1	214	17	7.9
12-15	168	4	2.3	209	11	5.2
TOTAL	455	21	4.6	548	34	6.2

In a large percentage of the cases there was also enlargement of the tonsils.

Children with adenoids are “mouth” breathers, owing to the obstruction in the nose, and there is not uncommonly defective expansion of the chest. The presence of enlarged tonsils or adenoids renders the child more susceptible to sore throat, and on this account the hearing is often defective; it is therefore important that surgical treatment should be obtained without delay.

OTHER DISEASE OF THE NOSE.—A polypus was present in the nose in the case of a boy aged nine and a girl aged five years.

EAR DISEASE.

At the time of inspection there was discharge from one or both ears in 24 cases, *i.e.*, 1 in 41 children were affected.

Particulars are given in the tables on page 159.

The ear affected was as follows :—

	Right.	Left.	Both.	Total.
Boys	3	8	2	13
Girls	4	5	2	11
TOTAL	7	13	4	24

In the case of a boy twelve years, discharge from the right ear was also sometimes present.

There was also a history of a discharge sometimes being present in seven cases : right ear (boy aged 13), left ear (boy aged 9 and girl aged 5), both ears (boy 7 years, and three girls aged 6, 7 and 9 years).

The particulars in regard to the 24 cases of recent discharge are shown in the tables on page 159. The following is a summary :—

Boys.

<i>Age period.</i>	<i>Number examined.</i>	<i>Disease.</i>	<i>Percentage.</i>
3-6	93	1	1.07
7-11	194	7	3.6
12-15	168	5	2.9
TOTAL ..	455	13	2.8

GIRLS.

<i>Age period.</i>	<i>Number examined.</i>	<i>Disease.</i>	<i>Percentage.</i>
3- 6	125	2	1.6
7-11	214	4	1.8
12-15	209	5	2.3
TOTAL ...	548	11	2.

OLD EAR DISEASE.—There was a history of old ear trouble in the case of two boys aged 11 and 13 years ; there was said not to have been any recent discharge. A girl aged 14 years had previously suffered from left ear disease, and in the case of two other girls aged 11 and 13 years there had been discharge three and nine years previously. A boy aged 5 years had been operated on in connection with the right ear, and the discharge had disappeared, although permanent deafness had resulted before the operation.

DEAFNESS.

Acuteness of hearing was estimated by means of the tick of a watch. With normal hearing the tick could be heard distinctly at a distance of 2ft. Particulars are given in regard to age and sex distribution on page 159, and are summarised here :—

<i>Number of children examined.</i>	<i>Defective in one ear.</i>	<i>Defective in both ears.</i>	<i>Total.</i>	<i>Percentage.</i>
1003	51	50	101	10.0

Boys.

<i>Age period.</i>	<i>Number examined.</i>	<i>Defect.</i>	<i>Percentage.</i>
3- 6	93	3	3.2
7-11	194	23	11.8
12-15	168	15	8.9
TOTAL . . .	455	41	9.0

GIRLS.

<i>Age period.</i>	<i>Number examined.</i>	<i>Defect.</i>	<i>Percentage.</i>
3- 6	125	10	8
7-11	214	21	9.8
12-15	209	29	13.8
TOTAL . . .	548	60	10.9

The cause of the deafness, as far as could be ascertained, was as follows :—

	<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
Enlarged tonsils and adenoids .	10	24	34
Ear disease	15	18	33
Other	16	18	34
TOTAL	41	60	101

Thus two-thirds of all deafness was due to ear disease or the presence of adenoids. In regard to the remaining third, in about half the cases the deafness was slight, and probably the chief cause was the presence of wax in the ears. In a large number of cases the ear disease had followed scarlet fever. It is most important that any discharge should be treated, as should it persist, permanent deafness usually results.

In addition to deafness following neglect of treatment, there is also the danger of inflammation spreading inwards and meningitis occurring. Where the discharge persists in spite of frequent syringing, surgical treatment is useful. I have already referred to the importance of such treatment in connection with enlarged tonsils and adenoids.

ENLARGEMENT OF THE GLANDS.

In each case examination was made for the presence of enlarged submaxillary and cervical glands. There is usually enlargement of both sets of glands at the same time. Enlargement was found in 252 children, 25 per cent.

Particulars in regard to age are given on page 159, and below.

	<i>Number examined.</i>	<i>Defect.</i>	<i>Percentage.</i>
Boys	455	113	24.8
Girls	548	139	25.3
Both sexes .	1003	252	25.1

In addition to the above, enlargement of the posterior cervical glands was also found accompanying verminous condition of the head with sores.

The Enlargement of the glands was slight or moderate in the majority of cases. Four cases were of tubercular origin, and further reference is made in connection with Tuberculosis.

It is not surprising to find that at least a quarter of the children examined had this defect, considering that the majority had five or more decayed teeth.

Enlargement of the tonsils is usually accompanied by some enlargement of the glands, and in other cases enlargement is caused by defective nutrition.

A table shewing the various diseases or defects found, with the number and percentage of each sex affected, is given on page 154.

THYROID GLAND ENLARGEMENT.

The two boys who had enlargement were 8 and 13 years of age, and the following were the ages of eight girls affected. :—

Ages	5	7	12	13
Number . .	2	3	1	2

A girl aged 7 years was accompanied by her sister, who also had a similar defect.

HEART DISEASE.

In four cases there was mitral disease; the ages of the boys were 11 and 13, and of the girls 13 and 14 years.

In nineteen cases there was functional disease. This in the majority of cases consisted of dilatation, or irregularity, and in two cases of boys aged 12 and 13 years there was hypertrophy. Excluding these latter cases the ages were as follows :—

MALES.

Ages	5	6	7	8	9	10	11	12	13
Boys	1	1	—	—	—	—	—	—	2
Girls	—	—	2	1	1	1	1	4	3

The disease in the girls was in most cases associated with anæmia.

ANÆMIA.

Six boys were anæmic, aged 6, 7, 8, 9, 12 and 13 years.

This condition was present in 35 girls, the particulars are as follows :—

Ages	5	6	7	8	9	10	11	12	13	14
Number . . .	4	1	5	5	3	1	2	7	4	2

This disease was much more common in girls than boys.

Anæmia to a greater or less degree accompanies poor nutrition.

RESPIRATORY SYSTEM.

BRONCHITIS.—Eight boys and eight girls suffered from Bronchitis. The ages were as follows :—

Ages	5	6	7	8
Boys	3	1	2	2
Girls	2	2	2	2

At an early age children are more susceptible to this disease.

CHRONIC LARYNGITIS.—A boy aged 7 years suffered from this complaint.

DEFICIENT EXPANSION.—In nineteen cases there was deficient expansion :—

Ages	5	6	7	8	9	10	11	12	13
Males	—	3	2	3	—	—	—	2	1
Females	2	—	3	1	—	—	1	1	—

In several instances deficient expansion was caused by the presence of adenoids and enlarged tonsils.

PHTHISIS.

There were five suspicious cases, all among girls, two aged 9 years, two 12 years and one 8 years of age.

In one case a brother and sister had recently died from consumption, and in another case there was a marked family history of the disease. The following were possible cases :—

Boy aged 6 years, and four girls aged 8, 10, 12 and 12 years.

OTHER FORMS OF TUBERCULOSIS.

TUBERCULAR GLANDS.—These were present in four instances : boys aged 5, 8, and 13, and girl aged 9 years, who had a scar on the neck which indicated that there had been previously tubercular glands, which had broken down.

Scars were present on the neck in the case of a girl aged 12 and three boys aged 7, 9, and 12 years. In one case an operation had been performed.

LUPUS.—A girl aged 9 had scars on the face, caused by this disease.

A girl 9 years had probable tubercular enteritis, and in another case (a girl aged 7 years) there was suspicious spinal disease.

The suspicious cases of Phthisis will be kept under observation. On account of absence of expectoration there was no risk of infection.

In children, consumption advances very quickly, and even at an early stage of the disease the child would not feel well enough to attend school.

NERVOUS SYSTEM.

EPILEPSY.—Two boys aged 7 and 12 years, and one girl aged 5 occasionally suffered from epileptic fits ; another child in consequence of frequent fits in the past had become mentally deficient.

CHOREA.—Two girls, aged 9 and 12 years, suffered from this complaint, popularly called St. Vitus' Dance.

INFANTILE PARALYSIS.—Two boys, aged 8 and 13 years, suffered from the after effects of this complaint. Further reference is made in connection with deformities.

SPEECH DEFECTS.

The following defects were found at different ages :—

STUTTERING.—Boys, aged 9, 10, and 12, and girls aged 9 and 15 years.

STAMMERING.—Boys aged 10 and 12, and a girl aged 11 years.

LISP.—

Ages	5	6	7	8	9	10	11	12	13
Boys	—	2	4	1	—	—	—	1	1
Girls	1	1	—	1	1	—	1	2	1

NASAL VOICE.—Nine boys and seven girls spoke with a nasal voice, caused by the presence of adenoids.

Ages	5	6	7	8	9	10	11	12	13	15
Boys	—	2	2	1	—	1	—	1	2	—
Girls	1	—	3	—	—	—	—	—	2	1

OTHER.—In two cases, a boy aged 6 and a girl aged 7 years, the speech was slow.

MENTAL DEFECTS.

DULNESS.—Particulars are as follows :—

Ages	5	6	7	8	9	10	11	12	13	14
Boys	1	1	1	1	1	—	—	2	4	1
Girls	—	—	1	1	2	—	2	4	2	—

DEFICIENCY.—There was deficiency in regard to five boys aged 7, 9, 13, 13, and 13, and 4 girls aged 8, 9, 12 and 12 years.

I am preparing a special report on mental deficiency in children which will be shortly presented to your Committee.

SKIN DISEASE.

RINGWORM.—This disease affected the scalp in six cases, *viz.*, three boys aged 5 years and three girls aged 4, 7, and 12 years.

A boy aged 8 years had ringworm on the left side of his neck. Two girls aged 5 years had ringworm on the forehead and right arm respectively.

IMPETIGO.—Present in the case of four girls, 5, 8, 10 and 13 years.

SCABIES.—Two boys, aged 6 and 7 years, were affected.

ECZEMA.—A boy aged 5 had this condition in the right side of his neck, and in the case of another boy, aged 12 years, the disease was present on the back and neck.

A girl aged 11 had eczema of the forehead, and another girl aged 5 years was affected with this disease of the skin behind the elbows and knees.

OTHER Sores were present on the face in 3 instances; 2 boys and 1 girl.

A girl aged 5 years suffered from seborrhœa of the scalp.

RICKETS.

In fifteen cases presence of curved tibiae, pigeon-chests, etc., showed that there had been rickets in early childhood. The ages were as follows :—

Ages	5	6	7	8	9	10	12	13
Boys	2	1	—	2	2	1	—	1
Girls	3	—	1	1	—	—	1	—

DEFORMITIES.

Seven children had curvature of the spine. The particulars are as follows :—

ANTERIOR CURVATURE.—A boy aged 5.

ANTERIOR AND LATERAL.—Two boys, aged 7 and 13.

LATERAL.—Three girls, aged 7, 12 and 13.

POSTERIOR.—Boy aged 12.

A boy aged 12 years suffered from weakness of the spine, and there was also projection of the right shoulder blade.

TALIPES.—This condition in two cases followed infantile paralysis.

A boy aged 13 years walked with a slight limp; considerable improvement had followed an operation.

Another boy aged 8 walked fairly well with an iron splint on the left leg. An operation had been performed in connection with the talipes to remedy the deformity.

OTHER.—Owing to the right leg being $1\frac{1}{2}$ inches shorter than the left, a girl aged 7 years walked with a limp.

HOME CIRCUMSTANCES AND INDUSTRIAL CONDITIONS.

(c.) General review of the relation of home circumstances and social and industrial conditions to the health and physical condition of the children inspected, so far as facts bearing on this point have come under notice.

In this town women are not employed to any extent in connection with industries, and so are able to look after their home and children. Enquiries which I have made in connection with infantile mortality show that the large proportion of infants are breast-fed; on this account the majority of children attending the elementary schools in the town have not been handicapped at an early stage of their existence by injudicious feeding and diseases such as rickets which follow in its train.

The bad effects of diseases in early infancy may be felt throughout life.

The average standard of wages in Hereford is low, and where there are four or five children and a rent of 4s. 6d. has to be paid, very careful management is needed to provide the bare means of subsistence for the children. Any intemperance on the part of the parents, as we have already seen, is shown in ragged clothing, defective boots and insufficient food. Fortunately the majority of parents do their best for their children. Gardens are provided in connection with a good many houses, where vegetables can be grown, and thus a saving effected.

In manufacturing towns although higher wages are obtained, on account of the women being employed at the mills, the household duties cannot be efficiently performed, and the children do not receive the attention that is desirable.

The work which is being done under the Housing Acts in this town will tend to raise the social status of the lower classes.

Under better surroundings it is hoped that there will be less intemperance and that better habits in regard to cleanliness of home and person will be formed.

TREATMENT OF DEFECTS.

(f.) “ *Review of the methods employed or available for the treatment of defects, such as defective eyesight, carious teeth, nasal obstruction or adenoids, tonsillitis, discharging ears, pediculosis, ring-worm and other skin diseases, including an account of the action of school nurses in obtaining or assisting in the treatment of such defects.*”

In connection with the defects found during the year, as I have already mentioned, written notices were sent to the parents who were not present at the examination.

During my second visit to the schools in the last quarter of the year, enquiries were made as to whether defects had been remedied or not, and where no action had been taken second notices were sent : this was also done in regard to defects which were found during 1908.

MEDICAL TREATMENT.—About 60 per cent. of the defects had been remedied.

A good many of the children had been treated at the Herefordshire General Hospital, Victoria Eye and Ear Hospital and the Herefordshire Dispensary. Some were treated by their own medical attendant.

As a good many of the defects were connected with the special organs the parents were unable to pay the necessary fee.

In the future it may be necessary for your Committee to assist parents who have not the means to procure treatment. Parents who can afford to pay for treatment should do so ; others who can only afford to pay part should contribute this amount.

The Local Education Authorities (Medical Treatment) Act, 1909, contains the following clause :—

“ Where any local Education authority provides for the medical treatment of children attending any public elementary school under section 13 of the Education (Administrative Provisions) Act, 1907, there shall be charged to the parent of every child in respect of any treatment provided for that child such an amount not exceeding the cost of treatment as may be determined by the local education authority, and in the event of payment not being made by the parent it shall be the duty of the authority, unless they are satisfied that the parent is unable by reason of circumstances other than his own default to pay the amount, to require the payment of that amount from that parent ; and any such amount may be recovered summarily as a civil debt. ”

According to Sec. 12 (1), Part II of the Children Act, 1908—

"If any person over the age of sixteen years, who has the custody, charge, or care of any child or young person, wilfully assaults . . . or exposes such child or young person to be assaulted . . . or exposed in a manner likely to cause such child or young person unnecessary suffering to his health (including injury to or loss of sight, or hearing, or limb, or organ of the body, and any mental derangement), that person shall be guilty of a misdemeanour, and shall be liable, etc.,—(heavy penalties stated.)— . . . and for the purpose of this section a parent or other person legally liable to maintain a child or young person, shall be deemed to have neglected him in a manner likely to cause injury to his health if he fails to provide adequate food, clothing, medical aid, or lodging for the child or young person, etc."

A parent may therefore be compelled to provide treatment in regard to defects found.

TEETH.—Leaflets were distributed giving instructions in regard to the cleansing of the teeth, etc.

PEDICULOSIS.—As the results of a conference between representatives of your Committee and the Hereford City Nursing and Maternity Society the latter Society kindly consented to allow their nurses to supervise for a period of three months the treatment of children with verminous heads who attended the elementary schools. The arrangement was that the children should be treated in their own homes, and treatment was carried out during the months of October, November and December. The teachers were asked to notify all cases of verminous heads to me. A notice was then sent to the mother drawing her attention to the condition, and suggesting suitable treatment, and I advised that the hair should be cut short.

In the letter to the parent it was stated that if the suggestions were carried out the head should be free in a week or ten days.

Where no improvement followed after a certain interval I received another communication from the Head Teacher. I then communicated with the Nursing Society, and the child was kept from school and treated.

Altogether eleven girls and one boy were treated, necessitating 109 visits.

The cases which were referred were very marked, and the nurses took a considerable amount of trouble in connection with the children.

Particulars were entered on cards, and on the card being returned with a note on one side stating that the child was free, a communication was sent to the Head Teacher stating that the child was fit to attend school.

In two instances there were two children of one family treated.

A child aged five years had her head covered with sores, and these were also present on the face. Medical treatment was necessary on account of the poor condition of the child. Excluding this case, 86 visits were paid in connection with the remaining eleven, being on an average nearly eight visits per case. The average time during which treatment was necessary was seven days, including sixteen days in two cases and not counting twenty-three days in connection with the previous case referred to.

A report of the work done was presented to your Committee by the Hon. Secretary of the Nursing Society, Mrs. Allen.

The results were satisfactory, and the report states that the mothers were grateful to the nurses for their assistance. Some of the homes were very clean, the majority fairly clean, and a few dirty. In one case, where the home was very dirty, disinfection of the bedding and child's clothing was carried out. The house in which this child resides has since been condemned, along with other houses in the vicinity, as unfit for habitation.

Several of the children were visited some weeks after their return to school, and the head was found to be quite clean and free from vermin. It is evident that verminous conditions in connection with children are not always associated with a dirty home, but may be due to ignorance or carelessness on behalf of the parents.

On account of their long hair verminous conditions of the head are more often found in connection with girls than boys. It would be an advantage if the hair in the former case were cut moderately short and fastened at the back.

Under the Children Act, 1908, a local education authority has certain powers in regard to the cleansing of verminous children under Sec. 122 :—

“(1) A local authority may direct their medical officer, or any person provided with and, if required, exhibiting the authority in writing of their medical officer, to examine in any public elementary school provided or maintained by the authority the person and clothing of any child attending the school, and, if on examination the medical officer, or any such authorised person as aforesaid, is of opinion that the person or clothing of any such child is infected with vermin or is in a foul or filthy condition, the local Education Authority may give notice in writing to the parent or guardian of, or other person liable to maintain, the child, requiring him to cleanse properly the person and clothing of the child within twenty-four hours after the receipt of the notice.

“(2) If the person to whom any such notice as aforesaid is given fails to comply therewith within such twenty-four hours, the medical officer, or some person provided with and, if required exhibiting the authority in writing of the medical officer, may remove the child referred to in the notice from any such school, and may cause the person and clothing of the child to be properly cleansed in suitable premises and with suitable appliances, and may, if necessary for that purpose, without any warrant other than this section, convey to such premises and there detain the child until the cleansing is effected.”

CLOTHING AND FOOTGEAR.

At the beginning of the winter I communicated with the Charity Organisation Society with a view to something being done to provide children wearing defective boots with suitable footgear, and the Society kindly undertook to investigate any cases which came to their notice. We are indebted to the Society and their Hon. Secretary for assistance in this matter.

I sent a communication in November to the Head Teacher of each school, requesting a list of the names and addresses of children with defective clothing or footgear, and on receiving the same a note was sent to the parents drawing their attention to the matter, and offering the services of the Charity Organisation Society, a note being enclosed stating the offices and hours during which the Hon. Secretary could be seen. In reply I received the names of twenty-six boys and sixteen girls. In several cases there were more than one belonging to the same family.

A good many of the children came from streets in the central part of the town, such as Catherine Street, Gaol Street, Berrington Street, etc.

As a result of the letters sent the parents of twenty-one children in fourteen houses saw the Hon. Secretary, Miss Distin, who went very carefully into the matter, and in most cases visited the homes. The result of these enquiries indicates that in a fair proportion of cases want of suitable footgear or clothing was due to carelessness on the part of the parent, and I was informed that a few days after the enquiries had been made the children came to school properly shod. Of the remaining cases, in several instances there was a history of either one or both parents drinking, with the consequent neglect of their children. I reported these cases to the Society for the Prevention of Cruelty to Children, and a visit from their Inspector had a very beneficial effect.

In cases which were deserving of it assistance was given.

As the result of enquiries made, I believe that the agencies at present available are able to cope with this matter.

I understand from several of the teachers that an effort is made to provide the children with sufficient nourishment, even if this means in some cases dressing them shabbily.

CLEANLINESS OF PERSON.

Useful advice can be given in this connection during the teaching of hygiene. Attendance at the baths will also have a beneficial effect in the same direction.

It will be seen from previous pages that the number of children who come to school dirty is not very large.

In Germany and other countries on the Continent spray baths have been adopted in connection with schools. The installations are usually on the ground floor or only a few feet below, easily accessible, and provided with tiled troughs and walls. Warm spray baths are given; the bodies are then soaped down, and a moderately cold douche is finally turned on.

It would be useful if a monitor were appointed from among the scholars to see that the lavatory basins were kept properly clean, and that the towel was kept in its proper place.

In some of the schools there is an insufficient number of lavatory basins, and one towel only is provided, which is not changed regularly.

PREVENTION OF INFECTIOUS DISEASE.

(g) Review of action taken to detect and prevent the spread of infectious diseases, including reference to action taken under Article 45 (b), 53 (b) and 57 of the Code of 1908.

NOTIFIABLE INFECTIOUS DISEASES.

Included in the above are Scarlet Fever, Diphtheria and Enteric Fever. On receipt of the notification from the medical attendant a visit is immediately paid, and enquiries are made at the house respecting the number of adults and children residing there, etc., and in the case of children it is ascertained what Day and Sunday school they have been attending.

The question as to whether the patient should be removed to the Isolation Hospital or treated at home is then decided, and home treatment is only agreed to where there is proper means of isolation, and suitable nursing can be provided.

Particulars in regard to Scarlet Fever and Diphtheria are given on pages 31-35. It will be seen that 82 per cent. of the cases of Scarlet Fever and 66 per cent. of the cases of Diphtheria occurred amongst children at ages from 5 to 14 years inclusive. Typhoid Fever is more common among adults, although in 1909 four out of the six cases occurred among children.

The following precautions are taken in regard to school children, varying according to whether the patient is treated in the Hospital or at home :—

1.—PATIENT REMOVED TO HOSPITAL.—The house and bedding are disinfected after the removal of the case to Hospital, and the Head Teacher of the Day school and the Superintendent of the Sunday school are informed of the case and advised that the other children must not return to school for fourteen days.

As soon as the patient (if a child) is discharged from Hospital, the teacher is informed of the fact, and advised that the child may attend school in fourteen days.

A letter is sent to the parents or guardians as soon as the patient is ready to be discharged from Hospital, and a notice is also sent, containing the following advice :—

“ Parents and others are warned against allowing recently discharged patients to come into unnecessarily close contact with others, such as sleeping in the same bed as another, attending school, church, chapel, or any public assembly, until at least a fortnight after being discharged.

Any person recently discharged after Scarlet Fever or Diphtheria, suffering from sore throat, discharges from the ears or nose, or breaking out on the skin, should be immediately isolated, as well as other persons with sore throats residing in the same house as the person recently discharged. All such cases should be placed under the care of a medical man and notice sent immediately to the Medical Officer of Health at the Town Hall.

A short holiday spent in the open air of the country, and as far as possible apart from other children, is always desirable.”

2.—PATIENT TREATED AT HOME.—In this case the teacher is notified that the children must not attend school until a notice is received from myself as Medical Officer of Health that they may do so.

In the list of precautions left at the house, the parents are requested to keep all children from Day and Sunday schools until

they receive permission to send them, and are asked to call the attention of their doctor to any sore throat or unusual discharge from the nose amongst others in the house.

As soon as the child has been certified by the medical attendant to be free from infection, the room and bedding are disinfected, and a notice sent to the day and Sunday schools that the children may return to school in fourteen days.

DIPHTHERIA.—In the case of Diphtheria the preceding notice is not sent until a swab taken from the throat is returned as negative. Swabs are also taken from the inmates, including adults and children, and where the diphtheria bacilli are found to be present, the throats are sprayed and children kept from school until a bacteriological examination of a swab from the throat shows that they are free from infection.

Where the disease is present in epidemic form or is associated with a particular school a list of precautions is sent to the head teachers. The following relates to the school children :—

“School teachers must prohibit the interchange amongst scholars of handkerchiefs, unnecessary kissing, the improper use of slate sponges, putting slate pencils, lead pencils, penholders, etc., into the mouth ; wetting the finger on turning over papers, or leaves of any book ; any habits promoting infection from mouth to mouth ; and should watch for suspicious throats or discharges from nose or ear. Suspects should be sent home and reported to the Health Office, Town Hall. Sunday school outings and public meetings should be carefully supervised, so that children coming from infected houses may be excluded, and every care should be taken to prevent contact, direct or indirect, between infected and healthy persons.”

It is also suggested that lead pencils, penholders, etc., should be kept in a separate box for each scholar. Advice is also given in regard to the disinfection of slates and slate pencils.

I am glad to say that slates and slate pencils are not now used, and that each child is usually provided with a separate box for keeping pencils, etc.

NON-NOTIFIABLE INFECTIOUS DISEASE.

In respect to Measles, Whooping Cough, Chickenpox, Mumps, and other diseases not compulsorily notifiable, information is now obtained through the school teacher or attendance officer. At a meeting held on May 3rd your Committee passed a resolution "That the Clerk write to the Head Teachers instructing them to give immediate notice to the Medical Officer of Health of any suspected case of infectious disease."

I was also authorized by your Committee to send a card to the Head Teacher of each school giving particulars in regard to the various infectious diseases, etc. The particulars given on the card in regard to infectious disease are arranged on the plan adopted by Dr. Ritchie, and supplied to the teachers of the Manchester Elementary Schools.

In the upper portion of the card reference is made to ventilation. Particulars in regard to infectious disease are arranged under the following headings :—

Disease.

Principal signs and symptoms.

Method of infection.

Period of incubation.

Day from onset of illness on which rash appears.

Period of exclusion from school of children exposed to infection.

Period of exclusion from school of children suffering from the disease.

Remarks.

In the accompanying table is shown the number of notifications received from different schools with regard to infectious disease, verminous heads, etc. The following notifications were also received from the Attendance Officer :—

Chickenpox.—2 cases.

Measles.—2 cases.

Sores on head and vermin.—1 case.

<i>Name of School.</i>	<i>Scarlet Fever.</i>	<i>Diph- theria.</i>	<i>Chicken Pox.</i>	<i>Measles</i>			<i>Whoop- ing Cough.</i>			<i>Mumps.</i>			<i>Infectious Skin Disease.</i>			<i>Vermi- ous Heads.</i>	<i>Sores on Head.</i>
				<i>Measles</i>	<i>Whoop- ing Cough.</i>	<i>Mumps.</i>	<i>Ring- worm.</i>	<i>Scabies.</i>	<i>Im- petigo.</i>								
All Saints' (Infants)	—	—	—	2	—	—	2	—	—	—	—	—	—	—	—	3	1
Holmer (Mixed)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	—
Romar Catholic	1	1	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Scudamore (Boys)	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
St. James' (Infants)	—	—	2	—	9	—	—	—	—	—	—	—	—	—	—	—	—
St. John's (Girls)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	—
St. Martin's (Mixed and Infants) ..	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
St. Peter's (Girls)	1	—	—	2	3	1	—	—	—	1	—	—	—	—	—	—	2
St. Peter's (Infants)	11	—	4	—	—	1	2	—	4	—	—	—	—	—	—	1	1
Tupsley (Mixed & Infants) ..	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—

Ten cases of suspected Scarlet Fever were also notified, as follows :—Scudamore Boys' School (2), St. Peter's Girls' (2), and Tupsley School (6). (The latter were of children who lived outside the City boundary.)

In addition to the above, other defect or disease in connection with eight children were notified on the forms supplied.

The forms, which contain columns for the name, address, and nature of disease, are arranged to contain six names only. It is desirable that any case or suspicious case of infectious disease should be notified immediately, in order that the spread of the disease may be arrested; one or two cases of Measles or other infectious disease may cause an outbreak in a school. On this account I hope more notifications will be sent in the future.

I have already given particulars in regard to exclusion of children with Scarlet Fever or Diphtheria. The following instructions are given in regard to other infectious diseases, and these particulars are also sent to the parents in regard to the disease from which the child suffers.

A. Children coming from houses in which either Measles, Mumps, Chickenpox, or Whooping Cough exists must be dealt with as follows:—

- (1) Children in schools other than infants' schools who have not had the disease, and all children in infants' schools must be excluded.
- (2) Children in schools other than infants' schools who have had the disease need not be excluded.

B.—Children referred to in A (1) must absent themselves for the undermentioned periods:—

MEASLES.—(a) Children attending other than infants' schools until the Monday following the expiration of fourteen days from the occurrence of the first case.

(b) Children attending infants' schools until the Monday following the expiration of fourteen days from the occurrence of the last case.

MUMPS.—For such time as the medical attendant thinks necessary, or in cases where there is no medical attendant, for three weeks.

CHICKENPOX.—Two weeks.

WHOOPING COUGH.—Two weeks.

The following instructions are given in regard to other diseases of an infectious or contagious character:—

ERYSIPELAS.—Child should not return till all swelling and peeling of skin have disappeared.

OPHTHALMIA.—Child should not return until all traces have disappeared.

PHTHISIS (CONSUMPTION).—If in advanced stage and coughing or much spitting, child should be excluded. (Infection from breath and dried spit floating in the air as dust.)

RINGWORM ON SKIN.—Child should be excluded until cured. Under treatment the disease when not affecting the scalp soon disappears.

RINGWORM ON SCALP.—Child should be excluded till cured. Difficult to cure and often takes a long time.

IMPETIGO (CONTAGIOUS SORE).—Child should be excluded until cured. A week or ten days should suffice.

SCABIES OR ITCH.—Child should be excluded until cured.

PHTHISIS.

A Poor Law notification was received during the year in regard to a boy aged nine years suffering from the disease, and also a voluntary notification in respect to a girl aged twelve years.

Reference has been made to these and other cases in an earlier part of the Report.

RINGWORM, ETC.

Children with Ringworm, Scabies, Impetigo, etc., have been excluded from school, and a notice sent to the parent that the children were not to return to school until free from the disease.

In connection with Measles, the following remarks on the mortality of this disease contained in a Memorandum recently issued are referred to later:—"In towns the attack-rate is highest in the third, fourth and fifth years of life, while the death-rate caused by the disease is highest in the second year of life. After the age of five the death-rate caused by it is relatively very small. These facts clearly indicate the importance of postponing an attack of measles, and of adopting special measures to ensure increased safety for children under five."

As Measles and Whooping Cough are chiefly spread through children in the infants' departments and it is in early childhood that the greatest number of deaths occur, it is especially important that intimations in regard to scholars suffering from these diseases should be received without delay, so that prompt measures may be taken against their spread.

Where cases are associated with a particular school, leaflets giving particulars of the disease if sent to the parent often prove of service, as medical advice is then sought in regard to doubtful cases.

On receiving a notification from the Teacher or Attendance Officer, a leaflet * (of which there is a separate one for each disease) is sent to the mother, advising her to obtain medical advice, and in suspicious cases of disease I visit the house and examine the child, where there is no doctor in attendance.

Fifteen visits have been paid to schools during the year in regard to infectious disease, and in addition fifteen children with suspicious infectious disease or in which there was some doubt about the diagnosis, were also examined at home, and through this means eight cases of Scarlet Fever (three in one house) were detected, and seven were removed to the Isolation Hospital.

SCHOOL CLOSURE.

During the year there was only one outbreak of infectious disease, *viz.*, Chickenpox, which occurred in connection with St. Martin's Mixed and Infants' School. On May 26th I received information from the Head Teacher of the occurrence of several cases of Chickenpox among the children attending this school. I visited the school and saw several suspicious cases, and these were excluded. I was also informed of seven cases which were being treated at home, and on account of there being some doubt in regard to the diagnosis, I visited two houses where there was no doctor in attendance, and found typical cases of the disease; instructions in regard to precautions were given. On receiving information of further cases of the disease I decided that the school should be closed on May 28th (Article 53 b, Code 1908).

MEMORANDUM ON CLOSURE OF AND EXCLUSION FROM SCHOOL.

An important memorandum in connection with school closure containing useful information in respect to the prevention of infectious disease among school children, has recently been issued under the joint authorship of the chief Medical Officers of the Local Government Board and Board of Education respectively. Attention is drawn in various parts of the Memorandum to the desirable co-operation between the Medical Officer of Health and the School Medical Officer, and as I hold the two positions no further reference need be made to this matter.

* Instructions are also given in regard to isolation, disinfection, etc., and detention of children from school.

PART I.

SCHOOL CLOSURE.—The following remarks are made in reference to the code requirements for school closure and for the exclusion of individual scholars :—

“ The Code for 1909 contemplates that in certain particulars new administrative conditions shall be satisfied before the Board of Education will allow a claim for grant in respect of schools, which, owing to closure with a view to preventing the spread of the disease, have not been open the requisite number of times.

“ This closure may be compelled by the Sanitary Authority under Article 57 of the Code, or may be voluntary on the part of the Local Education Authority.”

Article 57 is as follows :—

“ If the Sanitary Authority of the district in which the school is situated, or any two members thereof, acting on the advice of the Medical Officer of Health, require either the closure of the school or any department thereof, or the exclusion of certain children for a specified time, with a view to preventing the spread of disease or any danger to health likely to arise from the condition of the school, such requirements must at once be complied with.

“ As regards the grant, provision is made by Article 45 (b) where a school is compulsorily closed or is closed under the advice or with the approval of the School Medical Officer, or for any other unavoidable cause.”

EXCLUSION OF CHILDREN.

“ Under Article 57 the Medical Officer of Health can initiate a compulsory process, whether for closing the school or for excluding scholars, though he can only do so through the Sanitary Authority or two members thereof.”

“ The exclusion of children is also provided for on the authorisation of the School Medical Officer by Article 53 (b) of the Code, which is as follows :—

Where the Board (of Education) are satisfied (i.) that proper arrangements have been made by the Local Education Authority for enabling the School Medical Officer to ascertain and certify cases in which the exclusion of children from school is desirable, and (ii.) that the School Medical Officer has authorised the exclusion of certain children from the school

- (1) on the ground that their exclusion is desirable to prevent the spread of disease, or
- (2) on the ground that their uncleanly or verminous conditions is detrimental to the other scholars, or
- (3) on the ground that owing to their state of health or their physical or mental defects, they are incapable of receiving proper benefit from the instruction in the school,

the exclusion of such children shall be deemed for the purposes of this Code to be exclusion on reasonable grounds.

“ For the purposes of this provision the Local Education Authority may direct that no children who have been excluded under the authority of the School Medical Officer or under Article 57 or who have been absent

from school owing to sickness, shall be re-admitted to school if the School Medical Officer is not satisfied that they can attend school without risk to themselves or others.

“Every direction or authority given by the School Medical Officer must be embodied in a certificate signed by him. A copy of every certificate must be furnished to the Local Education Authority, and must be produced, if required, to any inspector or officer of the Board's Medical Department.”

The general effect of the changes which these articles of the Code bring about is next referred to :—

“Where closure for medical reasons has been effected voluntarily, the requirements of Article 15 (*b*) will not be satisfied unless the School Medical Officer has advised, or where he has not advised approves the closure.”

PART II.

INVESTIGATION OF “MISSED CASES.”—Attention is drawn to the importance of “missed cases.” The Medical Officer of Health “will regard each case of notified disease as possibly connected with other cases of the same disease, which owing to their mildness, or the absence of some of the characteristic symptoms, have been overlooked by the parents or the teacher or both.”

It is suggested that the investigation should include enquiry among children who have been in contact at school with the scholar who has fallen ill.

INSTRUCTIONS TO TEACHERS AND PARENTS.

“Infection is often spread in school by the attendance of children suffering from initial and unrecognised symptoms, or attending school in the convalescent stage, or throughout the course of a mild attack of an infectious disease. To minimise the danger, the teacher should be instructed in the symptoms of onset of the chief infectious diseases, and the symptoms which may be manifested by children who have recently passed through the acute stages of these diseases.”

Cards containing particulars in regard to symptoms etc., in connection with infectious disease have been sent to the Head Teacher of each school.

“Clear directions should be given by Local Education Authorities instructing teachers temporarily to exclude children showing any symptom suggestive of any of these diseases, until medical assurance can be had that they may attend school without harm to themselves or danger to other scholars.”

OCCASIONAL DIAGNOSIS BY MEDICAL OFFICER OF HEALTH.

“The difficulty occasionally arises that the parents of a child who is suspected to be suffering from a mild attack of an infectious disease cannot afford to send, or will not send, for a doctor, although they have kept the child away from school for a few days. Exclusion from school must be continued in these, as in all cases of suspicion until doubt as to the nature of the cases has been removed, etc.”

It is suggested that in such cases the Medical Officer of Health or School Doctor should make or aid in making a diagnosis.

INTIMATIONS BY MEDICAL OFFICER OF HEALTH TO SCHOOL MEDICAL OFFICER AND HEAD TEACHER.—It is suggested that the information as to notifiable infectious cases among school-children obtained by the Medical Officer of Health should be transmitted to the Head Teacher of the school concerned. This recommendation is carried out in each case.

INFORMATION AS TO THE NON-NOTIFIABLE DISEASES.—Mention is made of the fact that the Medical Officer of Health is dependent for information on parents, teachers and attendance officers,

“ and if the rapid spread of these diseases in schools and the need for exclusion is to be avoided, school officers and parents should furnish this information to the Medical Officer of Health.”

INTIMATION AS TO CASES OF DOUBTFUL NATURE.—

“ Apart from systematic and prompt intimation to the Medical Officers by teachers and attendance officers of all cases of the non-notifiable infectious diseases ascertained by them, further intimations should be sent by them of the absence from school of any child on the suspicion that it is suffering from an infectious disease; and absence of several children of one family from school at the same time, no matter what name may be given to the complaint that keeps them at home, should also be reported. In practice it has been found that such intimation of absentees has materially aided the Medical Officer of Health in taking measures for the suppression of infectious disease.”

Mention is made that the medical inspection of school children will in due course enable the medical history of each scholar in respect of infectious diseases to be recorded, and that this knowledge will be valuable in the future in determining whether in particular cases children need to be excluded from school, or classes need to be closed when an outbreak of infectious disease occurs.

GENERAL CONSIDERATIONS AS TO THE ACTION TO BE TAKEN IN RESPECT OF INFECTIOUS DISEASE OCCURRING AMONG SCHOOL CHILDREN.—It is pointed out that infection in schools is spread to a much greater extent by infectious persons than by infected things, and that by systematically obtaining the information as to infectious cases, and by adopting the measures of exclusion of recent “ contacts ” with them, the common sources of infection can be controlled :—

“ Subject to this chief consideration, certain other administrative lines of action may be indicated here. Disinfection of special class rooms or of particular articles should be undertaken when there is reason to believe that these have been infected. A special caution may be given as to the risk arising from moistening slates with saliva, or from the use in common of penholders and pencils which are apt to be put in the mouth; and steps should be taken to avoid this.

"The frequent and thorough washing of class rooms and cloak rooms is an efficient means of removing both dust and infection. Dry sweeping on the other hand, tends to scatter dust. Much can be done to prevent the spread of infection by due attention to the sanitation and ventilation of schoolrooms and cloakrooms; and, as far as practicable, by preventing children having to sit in school in wet clothes or with wet feet. Overcrowding greatly favours the spread of infection, while adequate means of ventilation kept in constant effective use diminish it. The water supply of the school should be pure; and lavatories and closets should be kept in a satisfactory state."

(i.) **EXCLUSION OF INDIVIDUAL CHILDREN.**—The suggestions laid down have been followed in this town, and mention has already been made of the precautions taken.

Reference is made to the action to be taken in regard to healthy children in the same household as the patient:—

"The usual procedure is to allow their return to school, at an interval (after the removal or complete recovery of the patient and disinfection of the house) a little longer than the maximum known period of incubation of the disease in question. In view of the occurrence of slight overlooked cases and of 'carrier' cases of infection, it is often advisable to prolong to a certain extent, as indicated hereafter, this period of exclusion from school. Exclusion from school of the children of infected households most often fails as a means of preventing spread of infection, because there are undiscovered or unrecognised cases or carriers of infection; and its failure points to the continued attendance at school of children having recently had attacks of the prevalent disease in a mild or unrecognised form, or who without themselves being ill are carriers of infection. Such unrecognised cases are to be sought especially among (a) children attending school from the same street or vicinity as the recognised patients; (b) children in the same class; and especially (c) children who on reference to the school register are found to have returned to school after a short absence. Although the provision will probably be more useful in private schools, attention may be drawn to Section 58 of the Public Health Acts Amendment Act, 1907, which, in districts in which it has been in force, enables lists of scholars in a school in which any scholar is suffering from an infectious disease to be obtained."

(ii.) **SCHOOL CLOSURE.**

"School closure is occasionally necessary on account of infectious sickness in the teacher's family, involving risk to the scholars. It is also occasionally necessary to close a school or division for one or two days in order that it may be disinfected and cleansed after children suffering from infectious disease have been in attendance, or to allow of the rectification of sanitary defects of a nature likely to contribute to outbreaks of disease."

It is pointed out that it should not often be necessary to close the school if the power to exclude individual children be used to the best advantage.

"It must be remembered that the closure of the school will deprive the Medical Officer of Health and the School Medical Officer of information respecting attacks in their early stage, or illness of doubtful nature which would otherwise be obtainable, and in any circumstance will interfere seriously with the education of the scholars.

"Closure, therefore, should be advised by the Medical Officer of Health only in circumstances involving imminent risk of an epidemic, and not then as a matter of routine, nor unless there be a clear prospect of preventing the spread of infection such as cannot be expected from less comprehensive action."

"In places where there are several public elementary schools, if an outbreak of infectious disease be confined to the scholars of one particular school, it may be sufficient to close that school only, and even where school closure is deemed necessary in the case of a particular school it need not always extend to the whole school or department, but may on suitable occasions be limited to particular classes or departments."

"Playgrounds should not remain open when schools are closed, as they provide a meeting-place for the children whom it is the object of the closure to keep apart. It may be laid down as a general principle that closure of a school or of a particular class is justified when the general evidence points to this school or class as the source of infection, and when cases of an infectious disease continue to occur in this class or school after every effort to discover the infecting cases has been made."

"School attendance may be greatly lowered during the prevalence of an infectious disease, especially of Measles and Whooping Cough, and school closure may then be desired to avoid a considerable reduction in the average attendance. In such circumstances a large proportion of susceptible children have generally already contracted the disease or been exposed to infection, and the closure of the school commonly does little to prevent further spread of the disease. Closure by the Sanitary Authority under Article 57 of the Code is contemplated solely in the interests of public health, and apart from this consideration the Medical Officer of Health is not justified in advising closure to prevent financial loss to the Local Education Authority. The question of closure when that step is not clearly necessary to prevent the spread of the disease, should therefore be left to the voluntary action of the Local Education Authority, advised by the School Medical Officer, if he is not himself Medical Officer of Health."

In Part III. rules are given for action in respect of particular diseases, and of official procedure.

(i.) *Review of—*

- (i.) *The methods and results of instruction in personal hygiene and temperance in the public elementary schools in the area ;*
- (ii.) *The methods and results of physical or breathing exercises in the schools ;*
- (iii.) *Arrangements for open air schools, school camps, etc., under Article 44 (g) of the Code of 1908.*

(i.) HYGIENE AND TEMPERANCE.

I am indebted to the Head Teachers for the following particulars in regard to instruction in these subjects:—

<i>Name of School.</i>	<i>Number of schools.</i>	<i>Ages at which Hygiene and Temperance are taught.</i>	<i>Standards.</i>
		Years.	
Boys	2	12-15	V., VI.
*Boys	1	7-15	II.,-VII.
Girls	1	10-14	IV., VII.
„	1	10-14	V., VI., VII.
„	1	11-14	V., VI., VII.
„	1	12-14	V., VI., VII.
†Mixed	2	10-14	IV.-VII.
‡Mixed	1	11-14	IV.-VII.

* Fuller syllabus on Temperance.

† In one school to the girls only.

‡ Temperance taught to children 8-14 years in Standards II.-VII.

At the time the enquiries were made the special syllabus on Temperance issued by the Board of Education had not been distributed. Each teacher has now a copy of this syllabus. The outline scheme for teaching Hygiene and Temperance published by the Board in 1905, or a scheme on similar lines approved by H.M. Inspector was used in each case.

Of the infants' schools, in one, simple lessons in regard to cleanliness of the person and home are given, and also lessons on Temperance to children aged 7-9 years in Standards I. and II., and in another school Hygiene and Temperance are taught indirectly.

It is satisfactory to be able to state that with the exception of the boys and girls in one mixed school and the boys in another school (mixed), the above subjects are taught in the higher standards in all the schools.

In regard to the results of the teaching, there is said to be in some cases improvement in the appearance of the children,

whilst in other cases on account of the home influence it is difficult to say what improvement has resulted. There can be no doubt that good results will follow in the future.

There is said to be some difficulty in finding the time necessary for the teaching of these subjects on account of the already overcrowded curriculum. I hope this matter will be remedied by the Board of Education.

It would be useful if the older girls received some instruction in the care of infants. By this means some of the infantile mortality which occurs through improper feeding might be prevented.

The following headings are taken from the syllabus of six lessons on the feeding and tending of infants and young children, which is given in the Manchester Schools :—

1. Washing and dressing a baby.
2. Feeding of infants.
3. General management of infants.

In connection with the feeding of infants the following matters are discussed :—

- (a.) Natural and artificial milk.
- (b.) The dangers of contamination in regard to cows' milk, and how to avoid them.
- (c.) The keeping of milk.
- (d.) Feeding bottles and rules for artificial feeding.

Various other useful advice is given in regard to patent foods, sleep, danger of overlying, and the value of fresh air, sunshine, warmth, etc. Instruction in the above matters and also in connection with household management is given at several of the elementary schools in this town, and all girls of 11 years and upwards have the opportunity of attending the class in cookery held by Miss Randal.

In 1905 " Suggestions for the Consideration of Teachers and others concerned in the work of Public Elementary Schools " were published by the Board of Education, and an outline scheme for teaching Hygiene and Temperance is given as Appendix VIII. In the Prefatory note it is stated that " the duty of safeguarding the health of children of school age is only in a limited degree a duty of the school, . . . the task of forming good habits in regard to such matters as food, clothing and cleanliness is

primarily for the home. . . . It is often the case that the standard of knowledge or duty among the parents is so low that the physical welfare of the scholars is endangered through the serious neglect in their homes of the fundamental rules of health. The school is practically the only available agency for discharging the neglected duty of the home in this matter; and is therefore forced, in the interests of the scholars, to assume the task of securing that they know these rules, and are encouraged to practise them."

"In the schools of prosperous neighbourhoods the parents will supply or may be induced to supply the practical training in good habits, for which the home is better equipped than the school. But in poor districts the school must endeavour, in this particular, to supply the deficiencies of the home."

"Where the homes are not good the performance of fixed duties in school is indispensable to the formation of good habits, because if these are not acquired in school they are not likely to be acquired by the scholars at home."

There can be no doubt that the training of children at school in the rules of health cannot but have a beneficial effect later in connection with their home life.

In the outline scheme it is suggested that the following topics should be dealt with:—

1. The home.
2. The person.
3. Eating and drinking.
4. Illness.

Various notes follow for the guidance of teachers in setting out the work for different classes. These notes are for use in teaching lower and higher classes, and refer to cleanliness, sunshine, fresh air, eating and drinking, posture, accidents and illnesses, etc. In regard to infants it is suggested that "formal teaching should not be given on the laws of health, but a few simple rules of health may very well be impressed upon young scholars, etc."

There are some very useful suggestions. I will refer to a few.

CLEANLINESS.—"The children should be told that each one of them should have a bath with warm water and soap at least once a week. They should be told that they should wash and brush their teeth and wash their mouths out with clean water, both at bedtime and in the morning, etc."

Various instructions are given in regard to cleanliness of clothing.

SUNSHINE.—“The sunlight should be freely admitted to every part of the school except at times when the glare or heat would be unpleasant.”

“The difference between plants grown in the sunshine and those grown in the dark can be shown.”

“The teacher should encourage the scholars to go out of doors on Saturdays and Sundays and during their holidays, for some part of every day, especially in fine weather, and to take walks in the country if possible, or if not in the public parks and gardens. They should be also told that this is one of the things that helps them to grow and become strong.”

FRESH AIR.—“The teacher should talk with the scholars about the windows, doors and fireplaces, and about any other means of ventilation there may be.”

“The scholars should learn that people who live where the air moves about freely are generally stronger than those who live in narrow streets, where the air does not move easily.”

“By talking with the scholars about their homes the teacher should find out whether any of them sleep with the windows closed, and should tell them that if they want to grow up strong they ought not to sleep with the windows absolutely shut.”

EATING AND DRINKING.—Some simple points in connection with these two subjects are explained.

TOBACCO.*—“Boys should be warned not to smoke at all while they are under twenty years of age, and told that even when they grow up it is very easy to smoke too much. Boys who smoke will be less quick at running games No boy ever derived any benefit at all from smoking, and many boys have done harm to themselves through it.”

POSTURE.—In regard to infants it is suggested that the less young children think about how they walk or sit or stand the better. In regard to the other classes, the following advice is given:—

“Though rigid attitudes are out of place, care should be taken to check bad habits in sitting or standing.”

* See Part III, Children Act, 1908.

“ In sitting the body should be held upright, the shoulders should be kept back, and the backs should be hollowed. Children should never be allowed to lean over their desks.”

SLEEP.—“ Every child under the age of ten years is better in bed at seven o’clock, and should remain in bed till seven o’clock next morning. Ten hours of sleep in every twenty-four are necessary for proper growth.”

“ And if any child is unable to sit or stand well without fatigue, or to attend to interesting lessons the teacher should ascertain if he gets enough sleep.”

In June, 1909, a special syllabus of “ Lessons on ‘Temperance’ for scholars attending Public Elementary Schools ” was issued by the Board of Education, and a copy has now been sent, on the instructions of your Committee, to the correspondent of each school. I hope the course which is suggested will be given in every school.

In the Prefatory note is the following :—

“ It is hoped that in course of time such instruction on the subject of ‘Temperance’ in its restricted sense as is suitable to public elementary schools will be given by the regular staff as part of the teaching of the elementary rules of personal health which should be included in the curriculum of every school. Article 2 (a) of the Code for 1908 indicates that such instruction should be given wherever possible, and Hygiene (which of course comprehends instruction relating to alcoholic drinks) is now included as one of the regular subjects for two year students in training colleges (Article 15 (a) of the Regulations for the Training of Teachers for Elementary Schools).”

In regard to the teaching of Temperance it is stated that “ the Board of Education will not in ordinary circumstances be prepared to approve under Article 3 of the Code any syllabus of instruction which departs substantially from this model. It is suggested that at least three lessons in the subject should be given to the children each year. It is, however, desirable to arrange, so far as may be possible, that if any part of the instruction is given to children who are under ten years of age, it should be only that which is of the broadest and most general character, and that lessons on the matter of the Third Section should only be given to children who are over twelve years of age.”

“ The teacher will know that a temperate life depends mainly on good habits, and the appreciation and practice of a few simple and direct rules of health and conduct, and is therefore largely a

matter of good training. There are open to the teachers on the staff of the school frequent opportunities, apart from the regular lessons, of impressing upon the scholars the importance of habits of self-control."

The syllabus is divided into the following sections :—

1. Eating and drinking : Food and its use.
2. Alcohol : Effects of alcoholic beverages on the body.
3. Evil consequences of intemperance to the individual, to the home, and to the State. (For children over twelve only.)

Various points in each section are referred to, and full notes given for the use of teachers.

(ii.) PHYSICAL AND BREATHING EXERCISES.

Last year the Board of Education published a new edition to the syllabus of Physical Exercises, which was first issued in 1904, and again published in altered form in 1905. It is stated in the prefatory memorandum that "the exercises in this Syllabus have been selected and arranged in appropriate progression, with a view to the promotion of the harmonious development of all parts of the body."

The exercises "have been chosen as suitable for school age, and may be effectively carried out without the use of special apparatus."

"Exercises likely to prove injurious to children of weak physique have been excluded, and some of the ordinary Swedish exercises, or combinations of movements, though well designed for average use, have been omitted or modified in order to avoid risk of straining children below the average, either in vigour or physical capacity."

It is pointed out that what the Board desire to secure is "the careful and well-balanced cultivation of the physical powers of each individual child."

The teacher is asked to "watch in particular the effects of the exercise upon his pupils, submitting a child when necessary to medical examination by the School Medical Officer."

The Syllabus contains an introduction drawing attention to the physical and educational effects of systematic physical training.

Under Physical Effects are discussed:—

- (a.) Effect on general nutrition.
- (b.) The corrective effect.
- (c.) The developmental effect.

The beneficial effect of exercises on nutrition is pointed out.

The advantages of types of such exercises to be found in running, leaping, skipping, and also marching, dancing, cycling and games of all kinds, are indicated.

The value of breathing exercises to stimulate the activity of the lungs and circulation and so increase the supply of oxygen to the body is pointed out. Singing would be also useful in this connection.

“The most important measurement is not that of the chest when distended to its maximum capacity, but the difference in measurement between the full and empty chest.”

Breathing exercises are valuable in the correction of mouth breathing, whether caused on account of obstruction of the nose or apart from this defect. It is important that these exercises should be used after any obstruction has been removed, to counteract the previous tendency.

“Trunk forward and backward bending, and the lateral trunk movements are most useful in assisting chest development and in strengthening the back and neck muscles in children who have round shoulders, etc.”

Directions are given to teachers as to general methods of conducting the class and selecting the exercises.

Seventy-two tables of Exercises are explained and illustrated, and there are appendices on supplementary physical exercises, including dancing steps, and games, etc.

There can be no doubt that the physical exercises have had and will continue to have an important effect on the development of healthy and also weakly children. In Hereford every facility is given by the Town Council to boys to learn to swim. During

1909, 360 boys went regularly to the baths during the summer months, and of these 147 obtained certificates of proficiency—77 for swimming 20yds. and 70 for 50yds.

. It would be useful if, as has already been suggested, similar arrangements were made to allow of girls also attending the baths.

Football, cricket and other games should be encouraged in every way. Skipping is an excellent exercise for girls.

(iii.) OPEN-AIR SCHOOLS, ETC.

There are no open-air schools in the town, although in connection with a certain number there are shelters in the playgrounds, and during the summer months some of the children are taught in the open air. Such teaching should be encouraged, especially among young children. Every playground should be provided with a shelter.

There is no need for an open-air school in a town such as Hereford, where there is an absence of industrial processes and the air is free from smoke, but in certain schools improvements are needed in connection with the interior, and additional playground accommodation is necessary.

(h.) Review of the methods adopted and the adequacy of such methods for dealing with blind, deaf, mentally or physically defective and epileptic children under the Acts of 1893 and 1899.

ELEMENTARY EDUCATION (BLIND AND DEAF CHILDREN) ACT, 1893.—Under Sec. 2 (1) of this Act your Committee are contributing to the maintenance of a boy aged eleven years in the Royal Institution for Deaf and Dumb, Edgbaston, Birmingham.

I visited this boy at his home in Hereford in November last; he has now been at the home three years, and before going there could neither read nor write. He has made very fair progress in the time, and can now write a very fair letter and is able to read. There has been deafness from birth.

I am at present preparing a report on mentally defective children in the town. I have already made enquiries in regard to what children in the town are epileptic, and by reason of severe

epilepsy unfit to attend the ordinary public elementary schools. Although there are several children who suffer from epileptic fits occasionally, there are none who by reason of this epilepsy are unfit to attend school.

(i.) Account of miscellaneous work, such as the examination of Scholarship candidates, Pupil Teachers, or Teachers of any grade.

No Teachers or Scholarship Candidates were examined by myself. I examined a boy aged $12\frac{1}{2}$ years for admission to the training ship *Clio*, and also eight children with reference to their fitness for attending school, who were suffering from the following diseases :—Conjunctivitis (2), Chorea (1), Dyspepsia (1), Caries of the Spine (1), Debility (1), and Epilepsy (2).

In conclusion I beg to thank the Chairman and other members of your Committee for the consideration always shown me, and the teachers for their co-operation and assistance.

I am, Ladies and Gentlemen,

Your obedient servant,

J. W. MILLER.

TABLE I. (L.G.B.)

I.

HEREFORD URBAN DISTRICT.

Vital Statistics of Whole District during 1909 and previous years.

Year.	Population estimated to middle of each year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all Ages belonging to the District.	
		Number.	Rate.*	Under 1 Year of Age.		At all Ages.					Number.	Rate.*
				Number.	Rate per 1000 Births registered.	Number.	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1899	21250	519	24.4	76	146	384	18.0	78	39	12	357	16.8
1900†	21270	512	24.7	67	130	394	18.5	73	28	8	374	17.6
1901	21400	496	23.1	64	129	379	17.7	90	39	5	345	16.1
1902	21550	526	24.4	58	112	362	16.7	70	27	9	344	15.9
1903	21700	564	25.9	78	138	388	18.1	82	40	5	353	16.2
1904	21900	489	22.3	61	124	355	16.0	101	33	9	331	15.1
1905	22050	525	23.8	41	78	346	15.6	85	39	4	310	14.05
1906	22200	479	21.5	69	144	373	16.9	84	41	7	342	15.4
1907	22350	536	23.9	51	95	351	15.7	86	41	11	321	14.3
1908	22358	482	21.5	46	95	349	15.6	92	30‡	10	327	14.6
Averages for years 1899-1908	21802	512	23.5	61	119	368	16.8	84.1	35.7	8	340.4	15.6
1909	22504	486	21.59	52	107	350	15.5	79	37	11	324	14.39

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

† This estimate of population for the year 1900 is calculated upon the withdrawal of Reserves, Militia, and Volunteers to South Africa.

NOTES.—(a) The deaths included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district, including citizens who have died in the Lunatic Asylum. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

‡ In addition, one non-resident was drowned in River Wye within city; another committed suicide—killed by railway train within city.

(b) By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

I.	II.	III.
Institutions within the District receiving sick and infirm persons from outside the District.	Institutions outside the District receiving sick and infirm persons from the District.	Other Institutions the Deaths in which have been distributed among the several localities in the District.
Workhouse. Herefordshire General Hospital.	Lunatic Asylum.	Isolation Hospital.

Area of District in acres (exclusive of area covered by water).	5,031	Total population at all ages,	21,382	At Census of 1901
		Number of inhabited houses,	4,565	
		Average number of persons in each house	4.68	

TABLE II. (L.G.B.)

HEREFORD URBAN DISTRICT.

Vital Statistics of Separate Localities in 1909 and previous years.

NAMES OF LOCALITIES.	WHOLE DISTRICT.				LEDBURY WARD.				LEOMINSTER WARD.				MONMOUTH WARD.			
	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.
YEAR.	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
1901 ..	21400	496	345	64	8211	182	122	26	7935	193	140	24	5254	121	83	14
1902 ..	21550	526	344	58	8259	186	125	24	8008	221	137	22	5283	119	82	12
1903 ..	21700	564	353	78	8313	208	132	25	8073	229	137	38	5314	127	84	15
1904 ..	21900	489	331	61	8408	177	125	23	8148	204	116	22	5344	108	90	16
1905 ..	22050	525	310	41	8456	183	116	16	8238	248	118	14	5356	94	76	11
1906 ..	22200	479	342	69	8503	181	129	32	8316	195	135	22	5381	103	78	15
1907 ..	22350	536	321	51	8577	193	105	17	8371	216	141	21	5402	127	75	13
1908 ..	22358	482	327	46	8548	154	129	17	8404	218	126	18	5406	110	72	11
Averages of 8 Yrs. 1901 to 1908	21938	512	334	58	8409	183	122	22	8186	215	131	22	5342	113	80	13
1909	22504	486	324	52	8582	187	131	17	8510	211	123	24	5412	88	70	11

NOTES.—(a) Deaths of Residents occurring beyond district are included in sub-columns C of this table, and those of non-residents registered in the district excluded.

(b) Deaths of residents occurring in public institutions are allotted to the separate wards according to the addresses of the deceased.

TABLE III. (L.G.B.)

HEREFORD URBAN DISTRICT.

Cases of Infectious Disease notified during the Year 1909.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH WARD.				NO. OF CASES REMOVED TO HOSPITAL FROM EACH WARD.			
	At Ages—Years.						Ledbury Ward.	Leominster Ward.	Monmouth Ward.	Ledbury Ward.	Leominster Ward.	Monmouth Ward.	Total cases removed to Hospital.	
	At all Ages.	Under 1.	1 to 5	5 to 15	15 to 25	25 to 65								65 and upwards
Small pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous Croup) ..	18	..	3	12	1	2	8	2	..	3	3	2	8	..
Erysipelas ..	18	2	1	..	2	10	6	..	..	..	..	..	..	..
Scarlet Fever ..	39	1	8	24	4	2	10	11	11	13	7	10	30	..
Typhus Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever ..	6	..	..	4	..	2	..	4	..	..	..	..	..	..
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phthisis (Poor Law) ..	20	..	..	1	3	14	13	5	2	..	..	..	..	..
Ditto (Voluntary) ..	8	..	..	1	1	6	4	3	1	..	..	..	..	..
Totals ..	109	2	12	42	11	36	57	32	20	16	10	12	38	..

The Isolation Hospital for Infectious Diseases is in the Parish of Tupsley, in Ledbury Ward, within the Liberties of the City.
No. of Beds—32.

The Isolation Hospital for Small-pox is in the Parish of Hampton Bishop, outside the Liberties of the City. No. of Beds—12.
The Workhouse, Prison and the Herefordshire General Hospital are in the Ledbury Ward.

TABLE IV. (L.G.B.).

HEREFORD URBAN DISTRICT.

Causes of, and Ages at, Death during Year 1909.

CAUSES OF DEATH.	DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHEN OCCURRING IN OR BEYOND THE DISTRICT.							DEATHS AT ALL AGES OF "RESIDENTS" BELONGING TO LOCALITIES, WHETHER OCCURRING IN OR BEYOND THE DISTRICT.				Total Deaths whether of "Residents" or "Non-Residents" in Public Institutions in the District.
	All Ages.	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	WARDS.				
								Leabury	Leominster	Monmouth		
1	2	3	4	5	6	7	8	9	10	11	12	
Smallpox .. .. .	.. 4	.. 1	.. 2	.. 1	..	..	..	.. 4	..	..	..
Measles .. .. .	.. 1	.. 3	.. 1	..	..	..	..	.. 2	.. 1	..	.. 1
Scarlet Fever .. ..	.. 4	..	.. 1	..	..	..	..	..	.. 2	..	..
Whooping Cough .. ..	.. 1	..	..	..	..	..	..	.. 1	..	..	..
Diphtheria (including Membranous Croup) .. ..	..	..	.. 1	..	..	..	..	..	..	..	..
Croup .. .. .	..	..	..	..	..	..	..	..	..	..	..
{ Typhus .. .. .	..	..	..	..	..	..	..	..	..	..	..
Fever { Enteric .. ..	..	..	..	..	..	..	..	..	..	..	..
{ Other continued .. ..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza .. ..	.. 2	..	..	..	..	.. 2	..	..	..	.. 2	..
Cholera .. .. .	..	..	..	..	..	..	..	..	..	..	..
Plague .. .. .	.. 2	.. 2	..	..	..	..	..	..	.. 1	..	..
Diarrhoea .. .. .	.. 5	.. 1	.. 1	..	.. 1	..	.. 2	.. 2	.. 3	..	.. 1
Enteritis .. .. .	.. 3	.. 1	..	..	..	..	..	.. 1	.. 2	..	..
Gastritis .. .. .	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever .. ..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas .. .. .	..	..	..	..	..	..	..	..	..	..	..
Phthisis (Pulmonary Tuberculosis)	28	.. 7	.. 5	.. 1	.. 4	23	.. 1	14	.. 8	.. 6	.. 6	
Other Tuberculous Diseases	15	..	..	..	.. 1	.. 1	..	.. 3	.. 8	.. 4	.. 3
Cancer, Malignant Disease ..	29	.. 3	.. 1	..	..	16	.. 13	13	11	5	9
Bronchitis	21	..	.. 1	..	..	.. 2	.. 15	8	10	3	2
Pneumonia	18	.. 3	.. 4	.. 1	.. 1	.. 6	.. 3	4	10	4	..	
Pleurisy .. .. .	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of Respiratory Organs	4	..	..	..	..	.. 2	.. 2	2	1	1	1
Alcoholism (Cirrhosis of Liver)	1	..	..	..	..	.. 1	..	1	..	..	.. 2
Venereal Diseases .. ..	.. 9	.. 9	..	..	..	..	..	.. 2	.. 6	.. 1	.. 1
Premature Birth .. ..	..	..	..	..	..	..	..	..	..	..	..
Diseases and Accidents of Parturition	1	..	..	..	..	.. 1	..	1	..	..	..
Heart Diseases	44	..	..	..	.. 1	21	.. 22	26	12	6	10
Accidents	5	..	.. 1	.. 2	..	.. 1	.. 1	3	2	..	4
Suicides	3	..	..	..	..	.. 2	..	..	..	.. 3	..
Other Diseases of Digestive Diseases of Nervous System	5	.. 6	.. 2	..	..	.. 2	.. 3	1	2	2	10
System	37	..	..	..	..	13	15	15	11	11	10
Old Age	35	..	..	..	..	..	35	12	12	11	10
Urinary System	8	..	..	..	..	.. 2	6	2	4	2	2
All other causes	39	16	..	.. 1	..	7	15	14	17	8	7
All Causes	324	52	19	6	10	104	133	131	123	70	79	

NOTES.

- (a) The deaths of residents occurring beyond the district are included in this table, and deaths of non-residents occurring in the district are excluded. See note (b) in Table I as to meaning of "residents" and "non-residents."
- (b) Deaths of residents occurring in public institutions are allotted to the respective Wards according to the addresses of the deceased as given by the Registrar, and in addition are classified under "Public Institutions."
- (c) Under the heading of "Diarrhoea" are included deaths certified as from Diarrhoea, alone or in combination with some other cause of ill-defined nature; and also deaths certified as from
- Epidemic enteritis.
Zymotic enteritis.
Epidemic Diarrhoea, Summer Diarrhoea.
Dysentery and Dysenteric Diarrhoea.
Choleraic Diarrhoea, Cholera, Cholera Nostras (in the absence of Asiatic Cholera).
- (d) Under the heading of "Enteritis" are included those certified as from Gastro-Enteritis, Muco-Enteritis and Gastric Catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise, there has been reason for including such deaths, especially those of infants, under the specific term "Diarrhoea." Deaths from Diarrhoea secondary to some other well-defined disease are included under the latter.

HEREFORD URBAN DISTRICT.

INFANTILE MORTALITY DURING THE YEAR 1909.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes	{ Certified ..	13	1	2	3	19	6	3	4	5	4	3	3	1	2	2	..	52
	{ Uncertified ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0
Common Infectious Diseases	Small-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles ..	..	..	..	..	..	..	..	..	..	..	..	I	..	..	..	I	..
	Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoeal Diseases†	Diphtheria (including Membranous Croup) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Whooping Cough ..	..	..	..	..	..	..	..	2	..	I	..	..	..	..	..	..	3
	Diarrhoea, all forms ..	..	..	I	..	I	..	..	I	..	I	..	..	..	..	..	..	3
	Enteritis Muco-enteritis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wasting Diseases	Gastro-enteritis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Gastritis, Gastro-intestinal Catarrh ..	..	..	..	..	..	..	..	..	I	..	..	..	..	..	..	..	I
	Premature Birth ..	6	..	..	..	6	2	..	..	..	I	..	..	..	..	..	..	9
	Congenital Defects ..	2	..	..	..	2	..	I	..	..	..	..	..	..	..	..	..	3
Tuberculous Diseases	Injury at Birth ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Want of Breast-milk, Starvation ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Atrophy, Debility, Marasmus ..	3	I	..	3	7	2	I	..	I	..	..	I	..	I	..	..	12
	Tuberculous Meningitis ..	..	..	..	..	..	..	I	..	I	..	..	..	..	..	..	..	5
Other Causes.	Tuberculous Peritonitis: ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Tabes Mesenterica ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Other Tuberculous Diseases ..	..	..	..	..	..	I	..	..	..	..	..	..	..	I	..	..	2
	Erysipelas ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Causes.	Syphilis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Rickets ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Meningitis (not Tuberculous) ..	..	..	..	..	..	..	..	..	..	I	..	..	..	..	I	..	2
	Convulsions ..	I	..	I	..	2	..	..	I	I	..	..	..	..	..	..	..	4
Other Causes.	Bronchitis ..	..	..	..	..	..	..	..	..	..	..	..	..	I	..	..	..	3
	Laryngitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Pneumonia ..	I	..	..	..	I	..	..	..	..	..	I	I	..	..	..	..	3
	Suffocation, overlying ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	..	13	1	2	3	19	6	3	4	5	4	3	3	1	2	2	..	52
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0

† See Notes to Table IV. (L.G.B.)

District—CITY OF HEREFORD.

Births in the year { Legitimate, 459.
 { Illegitimate, 27.

Population (Estimated to middle of 1909) 22,504.

Deaths in the year { Legitimate Infants, 47.
 { Illegitimate Infants, 5.

Deaths from All Causes at All Ages, 324.

CITY OF HEREFORD.

DEATHS OF RESIDENTS FROM ALL CAUSES, 1909.

	AGES.																	WARDS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to up	All ages.	M.	F.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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